Lumleian Lectures
ON
SOME POINTS IN THE NATURAL HISTORY OF PRIMITIVE DRY PLEURISIES.

Delivered before the Royal College of Physicians,

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LECTURE II.

MR. PRESIDENT AND GENTLEMEN,—A careful study of the cases related with more or less completeness in my first lecture leads naturally and necessarily to the second stage of this inquiry. A full understanding of the clinical demands a solution of the pathological problem; they are inseparably connected, and find their common origin in dynamic disturbances, which, although sometimes intangible, invisible, and incalculable, constitute the ultimate nature or essence of disease. What, then, is the nature of the visible pathological changes originating, underlying, maintaining, and continuing the symptoms and signs characteristic of the course and issues of the cases set forth as the grounds of this inquiry?

But before describing those changes as I have observed them in the course of my examinations, I must clear the way to the better understanding of them by some remarks on the minute anatomy of the lung, and on the structural characters of a blood-clot formed in freshly drawn blood.

Setting aside the earlier and in sundry ways admirable accounts of the minute anatomy of the lung given by Addison, Rainey, Rindfleisch, Schultze, Charcot, Luppey Lefort, and Waters, and confining our examination to the accounts more recently published by such observers as Schäfer and Klein, we shall learn from them the views received and adopted at the present time. Here is what Schäfer says:[1] "After a certain stage of subdivision, each bronchial tube reduced to a small size is termed a lobular or respiratory bronchial tube, and its walls become beset with small hemispherical saccules termed air-cells or alveoli. They occur at first only here and there, and confined to one side of the tube only, but at length almost cover it, so that the tube in a great measure loses its cylindrical character. At length it ends in an enlarged completely sacculated passage, termed the alveolar passage, from which are given off blind ramifications, somewhat enlarged towards their extremities, and everywhere closely beset with the air cells. These enlarged terminations are named infundibula." In order to give as exact an expression as possible of these views, he illustrates them by a diagram given at page 516 of the work already cited. From Klein's Atlas and from his more recent masterly little Handbook of Histology I extract the following account, which on the whole is the simplest, clearest, and most accurate of any hitherto published concerning the minute anatomy of the pulmonary parenchyma: "The small or intra-lobular bronchi are cylindrical tubes; they divide dichotomously into smaller tubes, and ultimately pass into the alveolar ducts, which take up on all sides of their circumference the lateral alveoli; the ultimate parts of the alveolar ducts are the infundibula, which take up the terminal alveoli. The alveoli are spherical or polyhedral in shape; and those belonging to the same alveolar duct or infundibulum are separated by much less tissue than the alveoli of adjacent lobules." In the Handbook (p. 220), it is further said that "all ducts or infundibula are closely beset in their whole extent with spherical, or being pressed against one another with polygonal, vesicles—the air cells or alveoli—opening by a wide aperture into the alveolar duct or infundibulum, but not communicating with each other. The infundibula are much wider than the terminal bronchioles, and also wider than the alveoli."

To Rainey and to both these distinguished observers is due the merit of having cleared away much of the confusion in which this intricate subject was until recently buried, of having discarded a complex, misleading, and useless terminology, and of having made it possible for persons not investigators or experts to form a tolerably accurate and clear conception of the anatomy of the pulmonary parenchyma and of its relations to the larger air passages. But even yet the reform is incomplete. It is not enough to have swept away as mere subjective expressions such terms as primitive and secondary lobules, lobulettes, air sacs, and the like. Others supported by great authority remain; and, whilst either having no correlative facts, or conveying inaccurate representations of those really existing, they suffice to keep obscure that which is simple, and to render barren or fertile only in error the application of anatomical facts to pathological processes and practical work.

Schäfer, for example, speaks of bronchia, bronchioles, or respiratory bronchial tubes, of their endings in enlarged completely sacculated alveolar passages, and of the giving off from them of blind ramifications or infundibula enlarged towards their extremities and everywhere closely beset with air cells. Elsewhere he says: "At the end of the respiratory bronchioles, near the passage of the infundibula, all the cells which line the wall of the tube are of the non-ciliated pavement variety. But the air cells themselves, both those which are scattered over the respiratory bronchioles and those which cover the infundibula, as well as intermediate portions of the infundibula, which occur here and there between the air cells, possess an epithelium of a peculiar character."

Now, in this quotation, even with the help of the context, it seems to me impossible to find a clear, connected, and exact account of the terminal air passages and of their relations to the pulmonary alveoli. And this impossibility, as I view it, lies less in any error committed by this distinguished anatomist than it does in the multiplication of distinctions, forgetfulness of the archetypal idea of a respiratory organ and the use of terms which are at once confusing and useless. There are two necessary—and, as it happens, they are the only unerring—guides to the complete and accurate understanding of the structure of an adult organ. The first is the study of its comparative history throughout the animal series; and the second is the study, from beginning to end, of the course of its own development. Investigated after this manner, the difficulties encountered in understanding the minute anatomy of the lung disappear; and the relation of the air passages to the alveoli become so clear and easy of apprehension and expression, that the use of many and complex terms is neither necessary nor justifiable. The primitive type of a lung is a cylindrical tube, the sides and end of which are portioned out by delicate membranous septa into shallow cubical spaces, not communicating with each other, but only with the common lumen of the tube round which they are arranged. If one will imagine a corridor with open cubicles fully occupying not only each side, but the further end, the floor, and the roof; if one will also imagine that no free space is left between the cubicles, that they fully occupy the sides, roof, floor, and end of the corridor, that they do not communicate with each other, except through the corridor around which they are arranged; that the corridor imagined is surrounded without loss of space on every side by corridors and cubicles similarly arranged; that all these corridors lead outwards to the exterior of the house of which they form a part; that, as all these corridors run outwards, they are joined by others without enlarging through the junction; and that at first the corridors are so short as to have only a single or double row of cubicles, whilst further outwards they have three, four, or even more,—if you will imagine all these things, you will be able to frame a sufficiently clear and accurate conception of the simple way in which the pulmonary alveoli are connected with the pulmonary air passages, and these with one another.

To describe the relation of the air passages to the alveoli in a more formal and literal manner, we may take a lobule as the subject of description. Each lobule, more or less conoidal in shape, surrounded by areolar tissue with all its usual contents, and penetrated at its smaller end by the lobular bronchus and by bloodvessels, lymphatics, and nerves, constitutes, as we know, a miniature lung. As soon as the terminal bronchus enters the lobules, it divides and subdivides with increasing rapidity and but small diminution of size, until the dividing or branching process is brought to an end at the circumference of the lobule. At its entrance into the lobule the lobular bronchus is but scantily alveolated, and its direction is moderately straight;

[1] Quain's Anatomy, vol. ii., p. 514.

but in the second and third divisions, which diminish in size, the walls are alveolated throughout, and the direction is constantly changing. In the terminal portions of the air tubes or passages which do not diminish in size the division is extremely rapid, and the end of each passage is formed by its abrupt closure just beyond a final division. It is this fact which, when a section of lung, including the pleura, is examined from the deep surface, has led to the notion that the terminal passages or tubes form dilatations or sacs at their blind extremities. Fortunately, sections and dissections parallel to the long axis of a passage demonstrate this notion to be incorrect. If this view of the relation of the air passages to the alveoli be accurate, and long study of the subject makes me somewhat confident about it, there is no need for a complex and copious terminology. It will be enough to speak of the lobular bronchus, of the intra-lobular bronchi or bronchioles, of the inter-alveolar passages and of the alveoli.

The alveoli are almost always spoken of as being hemispherical or vesicular; and their relation to the air passages is often illustrated by reference to a racemose gland or to a bunch of grapes. Both the description and the illustration are alike erroneous and misleading. It is true that under forced inflation, and as a result of injection and of other manipulations, the alveoli do exhibit occasionally a distantly hemispherical shape. But this is abnormal. Lying on the walls of the terminal passages, varying a good deal in size and somewhat in shape, but fairly uniform in depth, they can best be described in the main as irregular cubical spaces. A single layer of a honeycomb rolled into a cylindrical tube and closed at one end by another single layer, the cells of both looking inwards, would illustrate better than anything else that I can remember the relation of the alveoli to the inter-alveolar passages. By carefully inflating and drying a portion of lung, and examining sections of it made at varying angles to the pleura under an inch objective attached to a binocular microscope, the statements now advanced with respect to the relation of the alveoli to the inter-alveolar passages may be easily corrected or confirmed by any competent observer. These remarks on certain points in the minute anatomy of the lung have led me from the main subject of inquiry further than I intended or desired. I excuse myself on the ground that an accurate and adequate knowledge of this subject is essential to a just understanding not only of pathological processes, but also of those respiratory sounds which we employ in the diagnosis of disease.

If a little freshly drawn blood is dropped upon a glass slide, permitted to clot, decolourised by gentle washing, and submitted to microscopic examination, three things and their mode of combination will arrest the attention of the observer: a basis substance arranged by wrinklings or foldings into varying sized areolæ, a faint and close network made up of minute molecular-looking fibres, and a small number of leucocytes. The fine fibrillar network will be seen to occupy the spaces enclosed by the areolæ of the basis substance. The leucocytes imprisoned in the basis substance, or in the fine fibrillar network, and undergoing some granular change, appear to be shooting out in all directions protoplasmic processes, and to be engaged in textural development. Examining such a specimen without any knowledge of its nature, it could be easily mistaken for a delicate glioma, and would be unhesitatingly received as a conclusive example of the development of fibrous tissue from leucocytes. But a further critical study of such a specimen will make it certain that no such development is taking place; that both the areolar basis substance and the fibrillar network are formed directly from the liquor sanguinis; that the leucocytes and their processes are in the way of degeneration; and that, whilst they and the fibrillar network will melt into a granular débris, the basis substance will remain unchanged.

I have related this experiment to show how easily one may be deceived by appearances when they run along the line of one's ideas, and how much care is needed in interpreting the changes which occur in recently exuded lymph. In this matter three structural elements are to be found: a fibroid basis substance, fibres, and cells. The latter are either migrated leucocytes or proliferating connective-tissue corpuscles; and it is held that from one or other, or both, the fibroid substance and the fibres are developed, and that the idea of the direct formation from an exudation of any sort of fibroid tissue must be definitively abandoned. In respect of the fibres formed in some kinds of lymph this contention is doubtless correct; but in respect of the fibres formed in at least one kind of lymph about to be mentioned no conclusive evidence has been adduced. In those exudations which consist of a fibroid basis substance and imperfectly formed white fibrous tissue, this theory cannot justly be maintained.

It is true that there are present in them leucocytes, and sometimes a few fusiform cells; but it is equally true that they do not exist in such numbers, nor show such changes of transition into fibroid materials as would warrant the inference of an exclusively causal relation between them. In such instances, as in the instance of the blood-clot, one may fairly hold that the fibroid elements have been directly formed out of the exudation, and that the cells present therein have taken at least no structural share in their development.

Leaving these collateral considerations, I proceed now to consider the chief forms of exudation produced in the course of primitive dry pleurisies. These exudations may be classed under three heads: the fibrinous, the croupous, and the proliferative.

The fibrinous exudation is characterised by the scarcity of its cell forms and its permanency; the croupous by the abundance of its cell forms and their rapid degeneration; and the proliferative by the abundance of its cell forms and the rapidity and variety of their structural developments. In no case does any one of these forms constitute the entire exudation; but in every case one variety predominates and determines the characters and the course of the changes which ensue. In its early stage the fibrinous exudation consists of membranes more or less extended and more or less thick, which can be detached from the pleura without apparent injury to its epithelial surface. This membrane is greyish, sometimes semi-transparent and elastic, but friable. It does not often adhere to the costal pleura, and it is more frequently found over the upper than over the under part of the lungs; indeed, its most frequent seat is around the summit of this organ. It is composed of a basis substance studded with moleculo-granular matter, shaped into rude areolæ or differentiated into bands of imperfectly formed fibrous tissue, and it contains embedded in it a few epithelial cells, some oat-shaped nuclei, and here and there a nucleated fusiform cell. Sometimes the exudation presents the appearance of an irregularly honeycombed or reticulated membrane, in the meshes of which there is found a yellowish, glutinous fluid, clotting on exposure to the air. In this fluid are found amorphous flakes, leucocytes, and red blood-discs. The structural constitution resembles that of the smooth membranous exudation; but it cannot be so easily removed from the pleura, and whereas the subpleural areolar tissue is in this instance congested, swollen, and infiltrated with a fluid containing many leucocytes, it is in the former instance apparently little if at all affected. At a later stage of its existence this fibrinous exudation becomes denser, harder, tougher, extends into the pleural matrix, and now, opaque and yellowish, cannot be detached without injury from the pleural surface. The subjacent pulmonary alveoli are for the most part little affected, but here and there their walls are thickened without apparent proliferation, and their cavities contain a fibroid substance, with epithelial cells and leucocytes embedded therein. At a later stage, however, when the fibrinous exudation invades the lung, further changes take place. This invasion, when it takes place, moves in the first instance along the lines of the interlobular fissures, and only at a later period steals along the bloodvessels into the alveoli. In well-marked cases, three striking naked-eye changes slowly appear in the wake of this invasion. The interlobular areolar tissue at the affected part is converted into thickened and indurated bands, which, in some instances, contracting and compressing the lobules, give rise to the appearance, rather rare, of a true pulmonary cirrhosis. In the second place, portions more or less extended of the pulmonary parenchyma become solid, hard, tough, dark, and creak under the knife, which cuts them with difficulty. And in the third place, along the course of the fibroid invasion, adjoining the consolidations, and at various parts of the summit and free margins of the lung, there are tracts or patches of vesicular emphysema. In the summit of a lung in which limited tubercular growths have undergone fibroid substitution, all these changes, the thickened pleura, the fibrous bands, the small consolidations and the emphysematous patches, will be found side by side. In addition to these changes, others less obvious will be found upon close examination. One of them is thickening of the adventitia and intima of the pulmonary arteries, and

the growth from the intima of minute fibroid nodules, which sometimes fill the cavity of the vessel. Another change is thickening of the alveolar walls, with the development therein of free nuclei, not apparently engaged in tissue development. A third change is the appearance in the fibrous bands, chiefly at their intersections, of small fibrous nodules, which resemble and are considered to be true grey granulations or tubercles. But neither the structural characters of the nodules nor the history of the patients in whom they are found justifies this interpretation. They are composed of a fibroid basis substance, having embedded in it numbers, never large, of small free ovoidal nuclei, a few nuclear fibres, and rarely a little elastic tissue. Each consists of one mass, and not of several masses; it does not, as far as I know, contain giant cells; and it never undergoes the cheesy change. Akin to these little nodules, there are sometimes found in cases of long standing, where there have been repeated exudations, larger lumps or flattened masses of like characters connecting the visceral with the parietal pleura, and looking like growths, from which it is not always easy to distinguish them.

The pleura, once the subject of fibrinous exudation, is liable to fresh attacks of inflammation, and to the formation of new membranes, superimposed upon the old. These new layers, although resembling each other in structure, are never completely fused into one, and on section can be easily distinguished. Between the layers there are left spaces, of various sizes, filled with a glutinous fluid, containing epithelial cells, leucocytes, and a few fusiform nuclei. These spaces are coated with an interrupted epithelium, and distantly resemble lymphatic sacs. This is the form eventually assumed by the reticulated fibrinous exudation when it is permanent. When only a single thin layer of this fibrinous exudation exists, vessels are not found in it. Even when there are several layers, vascularisation, as compared with the proliferative exudation, is exceedingly scanty; and it seems probable that the development of new vessels takes place rather by channelling and differentiation than by development through the medium of protoplastic cells. Lastly, this form of exudation is characterised by the scantiness of its cell constituents, by the slowness of the changes occurring in it, by its persistence, by its freedom from complication with caseous consolidations and bronchial dilatations, by the lines which it follows in invading the lung, by the rarity of its disintegration thereon, and by the insignificance of its effects upon the general health.

The croupous, or, as it was originally named by me, the corpuscular exudation occurring in primitive dry pleurisies, differs in many ways from the fibrinous on the one side and the proliferative on the other. It occurs for the most part at the middle and lower parts of the lung; it is yellow, soft, thready, unplastic, and full of fluid, containing multitudes of degenerating cells, hyaline globules, blood-discs, amorphous flakes, fragments of granular fibres, granular débris, and countless micrococci. Sometimes, without the occurrence of pneumothorax, these accumulations escape by means of minute openings in the pleura, through the lung, and the patient recovers. A single exudation, examined more closely may be divided into three parts. The first is an opaque, yellowish, and friable membrane of varying thickness, incapable of detachment from the subjacent pleura, with which it is apparently organically incorporated. The second is a loose, open, soft, areolated pseudo-texture, infiltrated with fluid. The third, occupying the free surface of the exudation, consists of incohesive, soft, fringe-like processes, which often break on handling. There is seldom any strong adhesion between the costal and the pulmonary pleura. When the exudation is very abundant, and occupies a considerable space between the viscerae and parietal pleura, circumscribed portions of it are sometimes found broken down and occupied by a fluid resembling pus. For the most part this fluid is not pus—not a fluid holding in suspension spherical globules of uniform size, structure, and mode of response to reagents; but a fluid holding in suspension disintegrating leucocytes and epithelial cells, granule cells, and hyaline spheres, oat-shaped nuclei, and broken fusiform cells, fragments of fibres, and granular débris.

The lung adjacent to the inflamed pleura is always affected to varying depths and in different ways. All the alveoli are congested, and contain desquamated epithelium and leucocytes. A few, but in my experience always a few, groups of alveoli are found in a state of hepatisation. Larger and much more numerous groups of alveoli are in a state of caseous consolidation. In the subpleural areolar tissue, in the interlobular fissures, and occasionally at the entrance of the vessels into the apex of the lobule, small yellowish nodules are seen, and may be commonly traced to lymphatics, from the proliferation of which, or of their contents, the nodules appear to arise. They are composed of an adenoid reticulum and of areolæ of common fibrous tissue, in the meshes of which are found masses of lymph-corpuscles, free, rounded, or oval nuclei, nucleated fibres, and numerous multi-nucleated cells in a state of active endogenous proliferation. Resembling in some ways tubercular nodules, they are often declared to be tubercles.

A close examination of the outer surface of one of the earliest formed layers of exudation will sometimes bring to light the existence of two sorts of minute openings. The one are stomata, chalice-shaped cavities, with epithelial lips and linings leading into lymphatic spaces. The other are minute openings, the mouths of burrowing and sometimes branching tunnels, which occasionally can be followed into the pulmonary alveoli. It is not improbable that when a croupous exudation melts, it sometimes makes its way through these tunnels into the lung, and is thence discharged. In a case which I recently attended with Dr. Barnes and Mr. Merriman, a puerperal pleuritic croupous exudation led, by melting, to the formation of three small encysted empyemas. Paracentesis having been considered inexpedient, the pyoid collections were left to nature. After a week, in the neighbourhood of one of the sacs there was heard a coarse moist crepitation; a few days later the crepitation became a bubbling rhonchus; and shortly afterwards some ounces of a pyoid fluid, quite different from genuine pus, were expectorated. The same procession of events attended the emptying of each sac. Meanwhile there was no single sign of pneumothorax; and although the thoracic walls corresponding to the empyemas were bulged, there was no displacement of the heart or of other organs. The patient is now completely convalescent. Sometimes this pleuritic croupous exudation has a constitutional origin, and then the affection may be bilateral. With a low capacity for organisation, this exudation exerts at times a considerable influence for evil on the subjacent lung. The effect consists sometimes in disseminated caseous or lymphoid consolidations, sometimes in fibroid changes, and sometimes, although rarely, in small excavations or in bronchial dilatations. Basic lung disease akin to that described by Mitchell Bruce and others now and then arises in this manner. The tissues of this exudation are, in at least one respect, remarkable. When the case pursues a favourable course, the exudation is for the most part entirely absorbed, and I have once or twice learned from examination after death, that within a few months of an attack, every vestige of its presence has been removed. Now and then the fluid part of the exudation is absorbed, and the residue, becoming dry, undergoes casation. In this condition calcareous plates and particles are occasionally deposited in it, and the patient becomes subject to obscure and often recurring attacks of pain.

The proliferatve pleuritic exudations which I now proceed to describe are of more frequent occurrence than the other two, more varied in their course, and more enduring in their larger issues and effects. They are still further distinguished in their origin from fibrinous and croupous exudations; for whilst the latter are preceded by the phenomena of inflammation, and accompanied by an abundant fluid exudation, the former sometimes arise, increase, invade the lung, and undergo textural changes unaccompanied by any other phenomena except those belonging to a slow and simple textural growth. Indeed, this variety of proliferative exudation often passes almost imperceptibly into pleural new growths, and further on I shall have to advert to several cases of this kind. Beginning in the subpleural connective tissue, and accompanied from the first by active cell proliferation, this exudation passes through the pleural matrix in two ways. Accompanied, as is usually the case, with an abundant fluid plasma, the exudation reaches the pleural surface without apparent breach of continuity. Unaccompanied by any such fluid, proliferating cells arranged in pointed groups push their way through the pleural matrix, and, making breaches of continuity therein, reach the epithelial surface, spread rapidly thereon, and unite to form a continuous proliferating neo-membrane, which at various parts differs in aspect, consistence, and thickness. The even membranous form, however is not always maintained. Sometimes, when the masses of cells and fibres are

loosely disposed and soaking in a glutinous fluid, the free surface assumes the honeycombed or alveolated appearance already described in connexion with fibrinous lymph. Sometimes, when unaccompanied by any fluid, the free surface becomes studded with clusters of granulations, nodules, or sessile warty-looking lumps; sometimes it is clothed with papillæ, or with fringe-like branching processes. In either case adhesions are speedily contracted with the costal pleura, and the intervening space becomes slowly filled by the connecting bridles, bands, or masses of actively proliferating lymph. The meshes of the exudation become filled with fluid; and when the meshes are large and the fluid abundant, the movements of breathing heard when listening to the chest with a stethoscope beget plural râles which are difficult to localise and understand. After a time the whole space between the pleural layers becomes filled with a solid exudation, and this, increasing in density and in hardness, becomes, with the visceral and costal pleura, fused into a tough, unyielding fibrous reticulated and laminated mass.

The structure of this exudation varies with its age. In the beginning, or at least as soon as it can be examined, it consists of an obscurely fibroid, and sometimes areolated basis substance, of a close network of fine molecular-looking fibrils, of leucocytes, nucleated cells, fusiform fibre cells, and desquamated epithelium. In addition to these elements, there are always present in varying amount, oval or oat-shaped free nuclei, red discs, and a few hyaline spheres. After a short time the network of molecular fibrils entirely disappears, the basis substance remaining becomes more distinctly fibroid, and constitutes a fundamental support for other changes in progress; leucocytes, or round cells resembling them, increase; fibre development from cells advances; new vessels shoot out in various directions; active cell proliferation subsides, and the bundles of freshly formed fibrous tissue become arranged either in lamina, when they sometimes exhibit a striking resemblance to unstriped muscular tissue, or in areolæ, through which communication with lymphatic spaces or channels is ultimately established. But whilst development has been thus proceeding towards the costal pleura, it has been also, in a certain number of cases, advancing into the substance of the lung. In the first instance it is only the subpleural alveoli which are affected, and their first mode of affection is a croupous, or more rarely a caseous, consolidation. Later on the proliferating exudation steals along the interlobular fissures, consolidating the peripheral alveoli of the lobules, seizes upon the peribronchial and perivascular connective tissues, enters the lobules of their roots, and travels along the terminal air passages, bloodvessels, and lymphatics into the alveoli. During this time the proliferating exudation consists essentially of two parts, constantly varying in their quantitative relations to each other, of the proliferating and fibre-growing cells, and of the fibroid basis substance already described. Sometimes, without obvious reason, the one predominates, sometimes the other; but they always concur; and when the alveoli are affected the cellular part always predominates in their walls and the fibroid in their contents. In the course of this progression of the exudation from the superficial to the deep parts of the lung, and from the root or from the circumference to the centre of a lobule, all the pulmonary tissues become affected; and the kind and degree of the affection determine the aspects which the lung shall afterwards assume, and the course which the malady will eventually pursue.

It may be said in a general way that the first effect upon the pulmonary textures consists in vascularity and swelling, the second in hardening and contraction, and the third in caseation and destruction, or more often in destruction without caseation. According to my own observations, they may, in abstract, be described in the following manner. The interlobular areolar tissue, increased in vascularity, swells, proliferates, hardens, and develops occasionally in its midst, either small, tough, fibrous-looking knots, or minute lumps and lines of cheesy stuff. Increasing in breadth, the interlobular septa encroach upon the lobules and compress them in various directions, and, at the root of a lobule where the bronchus enters and the vessels enter and emerge, the parts become so constricted by the fibroid invasion that their nutritive and functional activities are seriously depressed, and the integrity of the lobule as an organ is put in growing peril. The smaller branches of the pulmonary artery are greatly thickened by proliferative swelling of the outer and inner coats, and the latter coming to look like a richly nucleated laminar fibroma, develops on its free surface granules or nodules, sometimes large enough to obstruct the lumen of the vessels. Some of the capillaries are obliterated, some are dilated, some are aneurysmal, but all are thickened, and in many the centres of their endothelial plates are occupied by larger or smaller groups of proliferating free nuclei embedded in a fibroid substance. The terminal bronchi in the midst of the indurating exudation are affected in divers ways. Sometimes they are thick, hard, and compressed; sometimes they are soft, loose, thin, and generally or locally dilated. There is, however, almost always thickening of the adventitia, with the occasional deposit of minute caseous lumps therein; the muscular coat is in a state of degeneration or undergoing fibroid substitution; the elastic bands are still undisturbed; and the mucous membrane, congested, infiltrated with a fibroid basis substance, and studded with oval and oat-shaped nuclei, has for the most part lost its ciliated epithelium, which is replaced by a layer or layers of columnar, cuboidal, or flattened cells. The alveolar walls are irregularly thickened, the intercapillary spaces are occupied by a nucleated fibroid tissue, which at one part destroys a portion of the capillary network, and at another projects into granulations or nodules; the alveolar endothelium is replaced by layers of subspheroidal or flattened cells; and the alveolar cavities, already encroached upon by the thickened walls, are at some points occupied by masses of a fibroid substance, with a few round or oval nuclear particles therein. From the concurrence and co-operation of these and other structural changes the affected portion of lung is at length brought into a condition which practically, if not theoretically, must be regarded as a pathological autonomy or entity. In this state the affected portion of lung encapsuled by layers, more or less numerous and thick, of indurated pleural lymph, diminished in size and irregular in form, heavy, dense, tough, and uncrepitant, feels like a mass of indiarubber of unequal thickness throughout. The surface of a section made through such a lung, intersected by fibrous bands, springing from and returning to the thickened pleura, and broken by the patulous mouths of bronchi and bloodvessels drawn closely together, is of a dark-reddish-slate colour, veined between the septa with whitish branching lines, studded with fibrous knots or caseous granules, and closely spotted with muco-purulent points. Cut with difficulty and creaking under the knife, the affected lung when compressed yields from the smaller bronchi larger or smaller quantities of inspissated pus, and, from the parts between, a sometimes scanty, sometimes abundant serum, rich in blood-discs, leucocytes, pus-globules, nucleated cells and fibres, hyaline and granule spheres and free nuclei. Under various names, and ever since pathological anatomy has been cultivated, this condition of lung has been a subject of discussion among pathologists. It is the grey induration of Andral and Addison, the pulmonary cirrhosis of Corrigan, the fibroid of Sutton, Bastian, Moxon, and Wilks, and the chronic interstitial pneumonia of Charcot, Wilson Fox, and Hamilton. Furthermore, this fibroid induration represents in part an early stage of the condition of lung eventually developed by the habitual inhalation of irritating particles of coal dust, stone, or steel.

For an indefinite time, and even beyond the average duration of life, this condition of lung may in favourable circumstances remain stationary, and be found compatible with fair health and all the ordinary duties and enjoyments of life.

But circumstances are not always favourable. In failure from any cause of the general health, and especially under the influence of recurring irritations of the respiratory passages, the various changes constituting the fibroid lung advance, and out of them by metaplastic or by other methods new ones arise. For a time the new and advancing changes are still compatible with tolerable health. But sooner or later they assume a regressive character; the tide of action turns against the organism, and by slow degrees it succumbs. Examined at this stage, the lung exhibits, in addition to the alterations already described, sundry new ones. These are minute accumulations of fat, patches of vesicular emphysema, excavations of various forms and sizes, and, in an uncertain but not large number of cases,[2] cheesy masses and bronchial dilatations. To some of these alterations I shall

[2] I exclude from this statement minute alveolar caseations, almost always present in the immediate neighbourhood of lymphatic pleural exudations

devote a few remarks. Unquestionably some of the emphysemas present in the fibroid lung are the results of physical forces acting in well-defined conditions. But a certain number arise in a different manner, and for the most part they are to be found in the midst or on the borders of the fibroid indurations. It is probable that these emphysemas are produced by more or less complete obstructions of minute branches of the pulmonary artery. For in certain experiments which I performed some years ago I found that by injecting sand or finely powdered glass into the jugular vein, and so producing embolism of some of the intralobular branches of the pulmonary artery, fatty usure, and then emphysema, followed in the territory supplied by the blocked vessel.

Of the excavations or dilatations met with together or separately in the degenerating fibroid lung three deserve notice: the fibroid, the caseous, and the bronchiectatic. The simple or fibroid excavations are small, elongated, irregular, and contain a thin, and sometimes blood-stained, pus. When comparatively recent the surface of the cavity is soft, shaggy, and congested; it is composed of mere fibroid stuff in a state of dissolution, and of fragments of the elastic areolæ of the alveoli, seen by the help of a simple lens, hang from it like bits of tangled thread. When of ancient date, the interior of the cavity is smooth, vascular, and apparently formed by an organised membrane; it is, however, nothing more than an infiltration and induration of the lung substance immediately surrounding the cavity; and although the cavity in some sense secretes, its enlargement proceeds by disintegration of the free surface and a less proportionate "filling in" from behind. The contents of this form of cavity, never a true pus, is produced in some degree by metaplastic processes, but in the main by degenerative and necrotic changes. Unless when old and stationary, elastic areolæ and the débris of disintegrated bloodvessels are always to be found in the contents. The caseous excavations are small or large; the small excavations appear to be formed by a process of necrotic dissolution pure and simple. In the interlobular fissures they seldom extend, and almost always heal through secondary fibroid processes. The large caseous excavations are also, in the main, produced by the chemical changes which finally determine necrotic dissolution; but in a small degree proliferative and metaplastic processes concur, and hence the presence in such cavities of pus-globules, free nuclei, and nuclear fibre.

The caseous masses sometimes found in the interior of the fibroid lung vary much in size; sometimes about the size of a garden pea, they are occasionally larger than a walnut. They are composed principally of epithelioid cells, and in small part of leucocytes, of free nucleated bodies, and of much granular débris, pervaded occasionally by an obscurely fibrillated basis substance. They arise plainly enough in proliferation of the alveolar epithelium, and in the secondary textural changes which that proliferation after a time originates. Sometimes, when small, the masses are surrounded by fibroid tissue. The cause of their development is difficult to determine; but as far as my own personal observations go, the conditions of their genesis are brought about by the concurrence of gradual thickening or compression of a branch of the pulmonary artery, with obstruction, more or less complete, of the neighbouring lymph channels.

Concerning the bronchial dilatations and bronchiectatic cavities, it must be observed that, in the first place, contrary to what might be expected, in a greatly contracted lung they are present only in a small minority of cases. The dilatations are of three kinds: cylindrical, fusiform, and globular. No single hypothesis of their mode of origin hitherto advanced seems adequate to account satisfactorily for the whole facts accompanying their development. Sometimes they are present when there is little induration or contraction of lung; and sometimes when induration and contraction are extreme they are absent. To traction of the thoracic walls and of the interbronchial fibroid tissue as factors in the evolution must be added the active forces in certain conditions of inspiration and expiration and degenerative changes in the bronchial walls. In every dilated bronchus such changes are to be found, and they consist, for the most part, in fatty degeneration of the cartilages, necrotic coagulation of the muscular tissue, and fibroid invasion of the parts below the basement membrane of the mucosa.

Cavities in connexion with dilated bronchi arise at least in two ways: from necrotic solution of caseous lumps in the peribronchial areolar tissue or peribronchial alveoli, and from ulcerations of the bronchial mucosa penetrating the alveoli. When formed, these cavities become, of course, subject to the same dilating forces of the bronchi; and not only under the influence of the general respiratory forces, but also under the traction of neighbouring cicatricial bands, they assume the most varied and irregular forms.

Thus altered by the further invasion of the fibroid process and by its secondary effects, the lung with its consolidations and cavities, its fibrous nodules and caseous lumps, presents the characters of ordinary phthisical disease, and would be commonly regarded as a variety of the tubercular process. And if it be true that the nature of a disease is to be determined not by its completed history during life, but by the structural changes discovered after death, then it must be confessed that there is much to be said in support of the popular view of the tubercular unity of phthisical disease. And if, still further, we accept without reserve the experiments of Koch and the assertions of his followers, that in every such lung as I have just described certain bacilli will be found, and that the terms "tubercular" and "bacillary" are co-extensive and convertible, then it must be conceded that the debate is closed and the question settled.

But for my part, supported as these statements are by the most ingeniously devised and carefully executed experiments, I cannot accept them in the subject under consideration, with unconditional reserve. For in several cases of phthisical disease following upon fibroid invasion of the lung, I have failed to find the tubercular bacilli in the expectoration or in the lungs. To this it has been replied, that if the investigation had been properly conducted, the bacilli would certainly have been found. The only answer that I can make to such an assertion is this: that the process which fails to reveal veritable bacilli in fibroid perfectly succeeds in tubercular cases. But assuming, for the sake of argument, that tubercular bacilli are to be found in every ulcerative non-malignant disease of the lung, and that, unlike every other organ in the body, it is insusceptible of any other chronic inflammatory or ulcerative process but the tubercular, our difficulties are not at an end. It is not easy to see how mere differences of constitution and soil can reconcile, with the exclusive action of a single causal agent, the widely differing histories of the affections now grouped under a single species by the bacillary hypothesis. And the difficulty is not entirely met by the reply of "chronicity," when we remember how, into whatever texture or organ we pursue it, the structure of the tubercle in acute tuberculosis is always the same. It is quite true that in the lung a tubercle when it appears excites fibroid and pneumonic changes, and that one or the other, or both, may so increase as to completely hide the tubercular nodule; it is quite true that sometimes the fibroid, and sometimes the pneumonic change, predominates; and that, in the latter case, the progress of the pathological changes is speedy, and that in the former it is slow; it is quite true that in the tubercular nodule there is a fibrous element, and that sometimes its growth is so disproportionate to the other structural elements that it extinguishes them; and it is quite conceivable, although in over four thousand autopsies I have never seen such an occurrence, that in a veritable tubercular lung one could nowhere find, in its fibroid consolidations, conclusive evidence of the former existence of the tubercular neoplasm. All this is true, or conceivably true, but it does not refute the observations made by others as well as by me, that inflammatory and non-inflammatory fibroid products may invade, alter, and disintegrate the lung without the presence at any time of either the true tubercular nodule or of the veritable bacillus. To assert that a fibroid pulmonary induration is incapable of ulcerative excavation except through the medium of tubercular bacilli is, to say the least, an unproved assumption; and, for the present at least, has no greater claims to unconditional acceptance than the assertion, made with equal confidence a year or two ago, that the presence of giant cells in a given growth was conclusive as to its tubercular nature.

Finally, it must not be forgotten that in accepting the bacillary hypothesis as a dogma no longer to be questioned, we shall have to range under one name diseases which, with apparently nothing in common but the presence of bacilli, are yet not only in the same body but even in the same organ, widely different in their symptomatic characters, course, duration, effects, and issues; and that, unless we are to lose some of the most precious parts of our recently acquired knowledge, and to ignore distinctions justly

founded on concurrent clinical and pathological observations, we shall have to re-classify bacillary affections in such a manner that, whilst the bacillary supremacy remains acknowledged, the differentia giving them permanent and real, although subordinate, individualities shall be formulated and maintained.

The homoplastic are not, however, the only changes which occur in the exudations of primitive dry pleurisies. Metaplastic changes arise; and out of the simple structural elements of the proliferative exudation are developed such changes of form and of arrangement as constitute, within certain limits and conditions, fibrous, syphilitic, leprous, and other growths. But neither upon them nor upon the larger considerations which they suggest have I time at present to dwell. Reviewing the pathological changes brought about by primitive dry pleurisy, it becomes plain that they may be properly arranged as so many pathological entities in four divisions: the neoplastic pleuritic membranes, the fibroid lung, the bronchiectatic lung, and the fibroid phthisical lung. The complete and adequate understanding of these pathological changes is undoubtedly important, but it is not sufficient; for, although sometimes they are the direct results of injury coming from without, they are in the majority of instances the anatomical renderings or structural expressions of underlying states of system which are of the essence of the disease, and demand the first and chief attention. To these dynamic states we should now naturally turn in order to learn how, by their integrations and disintegrations, their ceaseless groupings and shifting equilibria, they originate, maintain, transfigure, and end the varying structural forms which are the only visible manifestations of their presence. Such an inquiry, however, would lead us into the realms of speculative pathology, and leave out of sight the clinical uses of our anatomical study. To this humbler task let me proceed; and in trying to show that the pathological entities have corresponding clinical autonomies, let me endeavour to turn the knowledge of this relationship into use for the daily business of our lives.

Before proceeding with this task it may be useful to state more formally than I have done the position which, at present, the bacillary hypothesis seems to held in the scientific mind. In the first place, it is held that there is nothing autogenetically distinctive in the structure or form of a tubercle; that what alone makes a growth tubercular is the presence in it of the tubercular bacillus; that tubercular bacilli are present in all tubercular and scrofulous products which are thus in nature essentially identical; and that their absence, at some given time from such growths, is not a proof that the bacilli have never been present, but merely that they have been destroyed by some curative change in the tissues invaded by the parasites. In the second place, it is held that the inoculation of certain healthy animals with the tubercular bacilli is followed invariably by an eruption of acute general tuberculosis, and that the tubercles thus begotten, as well as their successors for generations, remain inoculable and virulent. In the third place, it is held that the inoculation of healthy animals with substances not containing tubercular bacilli are invariably infructive, or fructive only in products which are either sterile or beget only local effects. In the last place, it is held that the true and sole causal agent of tubercular, scrofulous, and allied diseases is the tubercular bacillus; and that the various forms which they assume, and the different courses which they follow under the irritative action of the bacilli, are accidental results due to local peculiarities of structure, the influence of external circumstances, and the constitutional tendencies of the invaded organism.

But whilst some of these contentions are proved, and some are probable, they are neither universally nor unconditionally accepted. There is a minority of persons, and I place myself among them, who contend that the exclusively causal agency of the bacillus, although extremely plausible, is not conclusively proved; that a greater number and variety of experiments of control are yet needed to satisfy a just scepticism; and that, even now, in the affections discussed, there must be admitted the existence of bacillary and of non-bacillary consolidations; and therefore of a bacillary and non-bacillary phthisis.[3]

At the present time, when men are still in the fervour of their conversion to the brilliant experimental discoveries of Koch, such protestations of a sober judgment will be regarded as unpardonable sins, and punished with suitable severity. Well, the sufferers under chastisement must console themselves with the reflection that it is only those whose judgments have been disturbed by emotion, or who have never sounded the deepest depths of knowledge, or who have not passed through the perils of its subtlest casuistries, that are exempt from difficulties, or doubts, or fears; and that for the most part truth is won, not by those who rush impetuously forward in its pursuit, but by those who, with open and eager mind, are yet in patience content to "labour and to wait."

[3] De La Phthisie Bacillaire, par le Professeur G. Sée, 1884.

Croonian Lectures

ON THE

HYGIENIC AND CLIMATIC TREATMENT OF CHRONIC PULMONARY PHTHISIS.

Delivered at the Royal College of Physicians,

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LECTURE II.

Curative Treatment. — Relation of Doctor and Patient. — 1. Diet: Defective Digestion; Raulin's Researches on Mineral Substances; Milk; Times of Meals; Cures of Phthisis; Alcohol. — 2. Air and Ventilation; Open-air Treatment; Defective Arrangements for the Treatment of Phthisis in General Hospitals; Brompton and Ventnor Hospitals; Necessity for numerous Small Hospitals for Phthisis in the Country. — 3. Exercise. — 4. Management of the Skin; Clothing.

MR. PRESIDENT AND GENTLEMEN, — With regard to the curative treatment of phthisis, the main points which we ought to aim at are: improvement of the general nutrition of the body, or, to use Dr. Beale's expression, of the "bioplasm"; restoration of healthy respiration and circulation in the lungs; limitation of the existing disease; prevention of fresh outbreaks or fresh infection. The principal means to obtain these ends are: adequate supply of food; abundance of pure air by night and day; regulated exercise; strengthening of the skin; healthful occupation of the mind. We might perhaps say, in other words, that we must aim at improvement of the tissue change by increased supply of pure air and nutritive material to the cells and tissues, and by perfecting the elimination of used-up material; but we must, at the same time, keep off impure air from the diseased spots. I shall discuss the hygienic treatment under the following heads:—1. Food. 2. Air and ventilation. 3. Exercise and rest. 4. Bathing and management of the skin. 5. Climate.

Allow me, however, Sir, before I enter into these points to say a few words on the relation of the doctor to the consumptive patient. Shall the doctor frankly tell the latter that his disease is phthisis? It is still the opinion of many eminent medical men that we should, as a rule, not do so. As long as phthisis was considered an incurable disease, there may have been reason for such concealment, but now, as we know, and can tell our patients, that phthisis is a curable disease, I think the patient ought to be informed of his condition, more or less according to the individuality; and as far as my experience goes this has a salutary effect. The patient is more ready to co-operate with the doctor, and to bring the great and long-continued sacrifices, for he becomes aware of his own large share of responsibility. I have already alluded to the circumstance that intelligence on the part of the patient and his friends is a great help towards recovery in phthisis, and that want of judgment or insight into the nature of the illness, and of the manifold dangers, and into the means of cure, renders the prognosis less hopeful, unless we are able to place the patient under the strictest superintendence of a judicious doctor, or, still better, in a health establishment under the control of a resident medical man and his assistants, or into a well-arranged special hospital.

1. *Diet.*—All those who have been successful in the treatment of phthisis have paid much attention to the question of food. Sir Risdon Bennett and many other physicians have shown that by "feeding" alone great service can be done. If the popular idea were correct, that the appetite and digestion of consumptive patients are specially good, it would be more easy to cure phthisis; but the rule is rather the reverse. The poorer the blood and nutrition of the cells and tissues, the greater therefore the want—the less is often their desire for food. The appetite is not rarely capricious, and the digestion is apt to be disturbed. It happens also that patients object to the diet ordered, and it is therefore sometimes necessary to tell them plainly that without their cordial and constant assistance in this matter they have no chance of recovery. At the same time, however, the fancies of the patient ought not to be disregarded. The food which he desires, if it is in any way permissible, ought to be procured for him. It ought to be as varied as possible, and the cooking and serving of meals ought to be nice. The example of others is mostly very useful; and this is one point in favour of special establishments and health-resorts for phthisis, as at Goerbersdorf, under Dr. Brehmer and at Falkenstein under Dr. Dettweiter. I have also seen at Davos and St. Moritz patients in company with other patients eat and drink, with regard to quantity and quality, what they would never eat in their own rooms alone, or with members of their families. Though it is impossible to lay down fixed rules for all cases, one rule is almost general—namely, that those suffering from consumption ought to take the amount of food required by frequent small meals, and not by only two large meals, as in French, or three meals, as in German and Swiss hotels. This is one of the reasons why ordinary hotels are in general not adapted to the treatment of active phthisis. In addition to breakfast, lunch, and dinner, there ought to be four supplementary meals—namely, early in the morning, between breakfast and lunch, between lunch and dinner, and at bedtime. Before passing in review some of the principal articles of food, I wish to direct attention to the possibility that there may be important relations between the life of the tubercle bacillus and the quality of the food that we take, especially the saline materials which enter into the composition of the blood, the cells, and tissues. A short time ago I had the pleasure of listening to a suggestive lecture delivered by Dr. Vivian Poore at the Society of Arts, in which he related the results of most instructive researches by M. Raulin on the growth of the Aspergillus niger. A short account of these researches is given in Dr. Duclaux's "Handbook on Fermentation," prepared for the International Health Exhibition in 1884. After much trouble, Raulin found the following liquid the best nutritive medium of the aspergillus. It is known as Raulin's liquid:—Water, 1500 grammes; sugar candy, 70 grammes; tartaric acid, 4 grammes; nitrate of ammonia, 4 grammes; phosphate of ammonia, 0·6 gramme; carbonate potassium, 0·6 gramme; carbonate magnesia, 0·4 gramme; sulphate of ammonia, 0·25 gramme; sulphate of zinc, 0·07 gramme; sulphate of iron, 0·07 gramme; silicate of potassium, 0·07 gramme. By sowing the spores on this fluid, two crops of aspergillus can be grown, which weigh together 25 grammes; but if we prepare the fluid without the potassium, the gathering will dwindle to 1 gramme only; the crop has, therefore, fallen to $\frac{1}{25}$th of what it was. It will fall to $\frac{1}{750}$th if the phosphoric acid, and to $\frac{1}{1500}$th if the ammonia, be withdrawn. The withdrawal of the zinc would reduce the crop to $\frac{1}{10}$th of what it was in the complete liquid—in other words, would bring it down from 25 grammes to $2\frac{1}{2}$th grammes. Duclaux points out that the zinc—in weight only $\frac{1}{2000}$th of the fluid—increases the crop of the plant by 700 times its own weight; and he further states that, if $\frac{1}{1000}$th of nitrate of silver be added to the nutritive fluid, the vegetation stops abruptly. We learn from this that microbes require mineral food in the same way as plants and animals do, and if we knew exactly which mineral substances the tubercle bacillus requires, and could, without harm to ourselves, deprive our blood and cells and tissues of these salts, by abstaining from food containing them we should deprive the bacillus of the means of existence. The investigation of these matters, however, is very difficult. It is not easy to construct the best nutritive fluid for each microbe. It can only be obtained by a series of methodical researches. When the best artificial medium has been created, it must be first ascertained that the result of the sowing of the spores is always uniform, otherwise the result of the withdrawing of certain elements cannot be calculated. It is further evident that a study of agents impeding or destroying the growth may also become very important. With regard to the different articles of food, Dr. Bidder, of Berlin, points out from several papers by Dr. Bunge, of Dorpat, that the food of carnivorous animals contains a larger quantity of soda and smaller of potash than that of herbivorous animals, and he reminds us that carnivorous animals are on the whole less subject to tuberculosis than herbivorous animals. If it could be proved that the potash salts are more conducive to the growth of tubercle bacillus than soda salts, articles of food containing excessive properties of potash ought to be taken only sparingly.

Milk is regarded by the majority of medical men as one of the best articles of food in the treatment of phthisis. It contains all that is required by the body, and the mineral matters in the best proportion. It is less irritating than other nourishing kinds of food, and is more easily digested. There are differences in the quality of the milk of different animals, and also of the same animal, according to the food consumed by it, and other influences; but when merely speaking of milk we mean cow's milk. The dangerous substances which can be introduced by it, as the fever poisons and the tubercle bacillus from cows affected by the disease, and principally those with diseased udders, are, so far as we know, destroyed by boiling. We ought therefore, unless we are perfectly sure about the milk-supply, always to recommend the milk to be boiled. Patients often say that milk disagrees with them, but I have only rarely been able to acknowledge this statement as correct. In some cases where there is a tendency to diarrhœa or sickness, or acidity of the stomach, it is necessary to dilute it with from one-third to one-sixth of lime-water, which often exercises a soothing influence on the mucous membrane of the intestinal canal, and may, besides, help to bring on the cretaceous change in caseous deposits. In other cases, especially where there is constipation, the addition of Apollinaris or natural Selters, or Bilin water, is useful; in others that of barley water; in others, a small quantity of coffee, tea, or cocoa renders the milk palatable to persons who have a dislike to the taste of pure milk. In many instances the addition of rum or cognac promotes the digestibility of the milk, especially in persons accustomed to stimulating food, including much alcohol, but this addition ought to be made only under the guidance of the doctor. The quantity of milk suitable to different invalids varies very much, indeed, in the same person at different periods of the disease, and also according to the amount and quality of other food consumed. I generally advise from one and a half to three pints in twenty-four hours, but in many cases, especially those complicated with albuminuria, I restrict, sometimes for weeks, almost entirely to milk and milk food.

I dare not discuss other articles of food in the same way as I have done with milk. Everyone interested in dietetics will find valuable information in the works of Playfair, Frankland, Pavy, and Bauer.

About diet in general I will confine myself to some general rules. 1. To induce the individual to take as much nourishing food as his digestion permits, and to endeavour to increase the appetite and digestive powers by air and exercise, and sometimes by medicinal substances. 2. To give as much choice and variety as can be obtained. 3. To avoid articles of food, or of relish, of inferior nourishing value, if by these the appetite for more necessary articles is diminished, or the digestion of the latter is disturbed. Such articles are, for instance, acids, salads, and especially uncooked acid fruits, sugar, and pastries, a list which might be largely increased. Potatoes ought to be taken only in very moderate quantities. They contain much potash in proportion to soda, and experience shows that the exclusive, or even preponderating, use of potatoes favours scrofula.

I have mentioned before that in the majority of ordinary cases of phthisis, except the very chronic and arrested forms, it is better to take the desirable amount of food in frequent small meals than in two or three large ones. I am in the habit of recommending a plan of the following kind, with many modifications according to circumstances:—At seven o'clock or earlier, while still in bed, a cup of milk by itself, or with a dessert- or tablespoonful of cognac, or with lime-water, or with a small quantity of tea or cocoa and a small piece of bread-and-butter. At half-past eight or nine, after dressing, breakfast of milk, with some slightly stimulating addition, as tea, coffee, or cocoa, bread-and-

butter, or bacon, ham, or fish. At eleven, a tumblerful of milk or koumiss, or sometimes a cup of broth or beef-tea, or a sandwich and a glass of wine. At one or half-past one, a substantial meal of meat, or poultry, or fish, or game, with fresh vegetables, some light pudding or cooked fruit, and a glass of wine. At four o'clock, a glass of milk or koumiss, or a cup of tea or coffee with much milk, and some bread-and-butter or plain biscuits. At seven another substantial meal similar to that in the middle of the day. At half-past nine or ten, on going to bed, a cup of milk, or bread-and-milk, or milk with some farinaceous food, as Hart's, Liebig's, Nestlé's, or Mellin's. At this time, if there are night sweats, the addition of a tablespoonful of brandy is very useful.

In cases of considerable pyrexia it would be injudicious and impossible to give as much solid food as in chronic non-febrile or nearly non-febrile cases, but it is necessary to give as much easily digestible food as the patient can digest. Our aim ought to be somewhat to check the waste, and to replace by food the increased waste. Here alcohol is of great use. Milk is often not digested in its natural state, but it must be tried peptonised and diluted with pure water, aerated water, or, still better, with barley-water or thin gruel. Chicken broth, veal broth, beef-tea, and gelatinous substances are in these conditions most useful; while in health, and in the non-febrile consumptive cases, they ought not to take the place of the more solid proteinaceous substances. In most cases of phthisis it is desirable to introduce into the system a fair amount of fat, and this can often be done better in the shape of bacon, fresh butter, and milk and suet, than in the form of cod-liver oil, though the latter, too, is most useful. There are some popular "cures" of phthisis into which milk or different kinds of fat, assisted by open air, enter largely. You all know the milk cure in the various mountain districts, from the time of the Romans to the present day; the koumiss cure in Tartary. I remember also the buttermilk cure in some German villages, and have often heard that in the American prairies consumptive patients are cured by consuming large quantities of the bone marrow of the buffalo. Many years ago, when assistant at a clinic at Bonn, two of my poor consumptive patients left me to be cured in a neighbouring village by taking three times a day or more frequently a large plateful of a kind of porridge prepared of dog's fat and rye meal, and certainly their improvement was most remarkable. But they had exchanged at the same time their in-door town work for out-door country work. All these cures have two points in common: first, food rich in fat and proteinaceous matter; and, secondly, out-door life.

I cannot close the chapter on food without entering into the debated question of alcohol. Much as I am convinced that in health alcohol is rarely necessary, in phthisis, especially in the febrile stages, experience has convinced me of its great usefulness in the majority of cases so long as the kidneys are sound. It acts as respiratory food (Binz) and limits the waste of tissue. Brehmer, Spengler, Unger, Rüdi, Volland, and Dettweiler use it largely; Austin Flint, too, is a strong advocate for its use. The quantity and quality required vary very much in different cases. In some cases as much as a bottle, and even three pints, of moderately strong wine, or ten to twelve ounces of cognac or whisky, are taken in twenty-four hours with advantage; in others scarcely one-sixth of this amount; and, again, in others alcohol must be altogether avoided. Alcoholic drinks seem to be specially useful in those cases where a pretty large quantity can be taken without unpleasant excitement or headache; but where, on the contrary, a sense of comfort and increased strength is produced by them, where appetite and digestion are improved, flatulence and indigestion removed, and pyrexia, where it exists, is diminished. Where, on the other hand, they cause throbbing in the arteries, headache, listlessness, flushing, or great excitement, or loss of appetite for ordinary food, they are either unsuitable or can only be taken in small quantities. The doctor must decide by careful examinations whether, and in what quantity, alcoholic drinks are to be given. The quality, too, cannot always be known without trial. In Germany and Austria the stronger Hungarian wines are much liked; in the Alps the red wines of the Valteline; but Madeira, Marsala sherry, Burgundy, good claret, and some pure Italian and Greek wines are likewise useful in many cases, and not rarely beer; cognac and whisky suitably diluted are of great value in cases of weakness. Very often Dr. Dettweiler's plan, to give the amount of alcohol required in very frequent and small doses, is of great practical value.

2. *Air and Ventilation.*—Although it is generally acknowledged that impure air is the foremost cause of phthisis, and although Dr. Henry Mac Cormac, Dr. B. W. Richardson, and others have preached not only this, but also that pure air is the most important means of cure, yet we must all confess that in practice the first principles of air treatment are, with rare exceptions, most imperfectly carried out. Wherever climate permits an entirely open air and tent life is the best help in the treatment of phthisis; but this is not easily practicable the whole year round in our climates, although much might be done in this direction. Fears of the inclemency of the weather are far too great amongst the public as well as the profession. Patients affected with chronic consumption, without or with only moderate and partial pyrexia, ought to spend the greater part of most days in the open air, and ought not to be deterred by a little rain, or mud, or low temperature, or by the fact that they begin to cough when they come out of the close house into the open air. Arrangements ought to be made by which invalids are enabled, warmly dressed, to sit in the open air, sheltered from wind and rain. It is here where the degree of intelligence of the patient forms an all-important element in the chances of success. It is necessary, as I have already stated, to give the patient and his friends an idea of the nature of the illness and the means of cure, and to obtain their intelligent, courageous, and persevering co-operation. The patient must see that though it is more difficult to carry out the open air principles in an inclement climate, that it is yet infinitely more injurious to him to shut himself up in close rooms than to use every possible moment of even an indifferent day to walk or sit in the open air. The improvement of the appetite, the digestion, and the strength, the diminution of night sweats, of restlessness, and mental depression, are in most instances so marked that the invalid after some time begins to have confidence, and to feel that his life is rendered more bearable even if no cure can be effected. We must always bear in mind that even in the midst of large towns the air in open places, and even in the streets, is very much purer than within the houses. The researches of Angus Smith, Pettenkofer, and others have shown this with regard to the proportion of oxygen and carbonic acid and other impurities; and those of Miguel with regard to the number of microbes in the air at Paris manifest this in a most striking manner. Their proportion within the wards of the Hôtel Dieu and of the Notre Dame de la Pitié being much larger than in the Rue Rivoli. As, however, the greater part of the twenty-four hours is spent in-doors the arrangements of the house and of the rooms are of the greatest importance. The invalid ought to have sunny rooms, sitting- as well as bed-room, for, though the sun does not shine at night, the vivifying influence which it exercises on the air of the bed-room during the day does not disappear at once with the cessation of the sunshine, but lasts through the night and longer; 2000 cubic feet per head is not too much space for each inmate, and by good ventilation the air ought to be frequently renewed by day and by night. The temperature ought, if possible, never to exceed 62° F.; and the open fire is by far the best producer of artificial warmth; gas ought to be entirely excluded. The bed ought to be open on all sides, and the ordinary consumptive invalid ought not to be longer than eight or nine hours in bed, even if the body temperature is somewhat raised during some hours of the day. It is a horrible custom to keep such invalids during the greater part of the day in bed unless the weakness be extreme. In all diseases it would be a useful subject of discussion when a patient is to be in bed and when not; when he is to take exercise and when to sit or lie still. But in phthisis the long stay in bed, and particularly in the bed-room, is certainly injurious; breathing, ventilation of the lungs, circulation, appetite, tissue change, almost everything is unfavourably influenced. In acute forms and stages of phthisis, when there is much fever, I do not advise the patient to take active exercise, or to fatigue himself by sitting up during any length of time; but it is certain that pure and fresh air is as necessary, and even more so, than during the non-febrile stages. The bed of the patient ought therefore to placed so that he receives as much open air as possible without exposure to actual wind or draught. In summer, and also in winter, weather permitting, a couch or bed ought to be placed on a balcony or terrace, or in an open field or garden; the patient ought to be carried to it and properly covered, lay there from morning to night, or as long as possible. Some

of my patients have spent during weeks, or even months, a great part of the day in hammocks slung up between trees, with great advantage. The change from the ordinary bed treatment in a close room to this open air couch or hammock treatment is an infinite gain to the patient who breathes more, eats better, is more cheerful, sleeps more soundly, and is less troubled with perspiration. The pyrexia, likewise, often rapidly decreases. I shrink at present from touching the open-air treatment of the poor at their homes, except so far as they likewise should be taught to be as much as possible in the open air, and to sleep with open windows; and I may add that I have seen many instances where a change to open-air occupation in all weathers, from indoor work in close workshops or bakehouses, has led to an arrest of disease and recovery. I must enter, however, a little more fully into the treatment of poor consumptive patients in our general hospitals situated in large towns. There they have usually only between 800 and 1200 cubic feet of air per head, with ventilation through open windows, which cannot be efficiently carried out without draught, and is in winter often sadly neglected. The majority of these patients, even if there is only moderate and partial pyrexia, spend the whole, or by far the greater, part of every day in bed, which, as I have already said, ought not to be, excepting in acute cases, or stages, or in excessive weakness; but if, after the subsidence of the pyrexia, they are out of bed standing, or sitting, or walking about in the wards, they are exposed to draughts, and frequently contract fresh attacks of bronchitis or pleurisy, or other illnesses due to chill, and thus take further steps in their downward course. Although I have always been fond of hospital work, these considerations have for a long time been a source of worry to me whenever I stood at the bedside of my consumptive patients, and in despair I have more than once said that they were in the worst place in the world; and yet the hospital to which I am attached stands on an open spot at Dalston, and has small plots of ground attached to it where convalescents can sit and walk, while the hospitals in the interior of London are mostly deprived of this advantage. This is, indeed, a subject, gentlemen, which deserves your serious thought, and I earnestly entreat you, if you agree with me, to enlighten the public and to use your influence to procure better accommodation for the treatment of the consumptive patients of the poorer classes. I know that many medical men, and perhaps some of those whom I have the honour of addressing, are not in favour of special hospitals. If the general hospitals are well arranged for the treatment of phthisis, and situated in good air, some of my objections fall to the ground, but these favourable conditions are rarely met with. Very much better are the arrangements in the Brompton Hospital for Consumption, especially in the new building, which I had the advantage of seeing quite recently with Dr. Theodore Williams. Each of the three floors devoted to in-patients consists of a corridor 10 ft. in width, a large central dining-room, ten wards 13½ ft. high, holding from one to eight beds—forty-six in all. The average floor space per bed is 115 ft., the cubic space being 1400 ft. The ventilation is maintained independently of the windows and fireplaces, and supplies 4000 cubic feet per hour to each patient. The air is admitted by numerous openings placed on a level with different floors—on the east and north into the galleries, on the west and south into the wards, the greater portion being heated by passing over coils of hot-water pipes; a part is admitted directly. The quantity of hot and cold air can be modified at will, and the temperature is capable of being evenly maintained. The foul air is drawn off from the corridors, wards, &c., through extracting flues built in the walls, and furnished with openings at floor and ceiling. These flues run into large air ducts beneath the roof, which communicate with four towers heated by steam coils, forming the exhausting chambers. With these arrangements it is possible for patients to walk about in the corridors, or to sit in the central hall and converse with one another without being exposed to draughts and chills. It was a great pleasure to see almost all the patients out of bed. The drawbacks unavoidable with the situation in London, especially with the east and north-east winds, are the ordinary contamination of the air and the occasional fogs, and the fair results obtained show how much good can be done by judicious treatment and arrangement in spite of such a grave natural defect.

Infinitely more advantageous is the situation of the National Hospital for Consumption at Ventnor, with which I have been acquainted for many years past, and which I have lately again visited, under the guidance of Drs. Coghill and Robertson. The Undercliff is so well known to you that I need not give a description of the delightful and healthy situation. The peculiarities of the arrangement are, you know, that the whole hospital is built in blocks for twelve patients each, that each patient has a separate sleeping room of from 1500 to 1750 cubic feet, and in the newest block 2000; that each six patients have a separate sitting-room, 3000 cubic feet space, and each block (twelve patients) has an additional room in which breakfast, tea, and supper are served, of 3000 cubic feet; that male and female patients dine separately in large rooms at the end of the blocks. There are various arrangements for the renewal of air, which, though they would be regarded as satisfactory in other hospitals, have not appeared so to the authorities of the institution, so that in the new block, on Dr. De Chaumont's recommendation, a supply of 5000 cubic feet of fresh air per head per hour has been adopted, and the fresh air is to be delivered at a temperature of 62° F. Dr. Hassall has rendered a great service to the public and the profession by originating the foundation of this hospital. Between the hospital and the sea there is a large piece of open ground for exercise and sitting in the open air. The diet of the patients is well arranged; the results of the treatment are satisfactory, and the patients are mostly very happy during their stay. What I should like to add are terraces and balconies, on which light beds or couches could be placed for febrile patients to lie on, and thus to enjoy the open air; and, further, large verandahs, glass covered, and with movable glass doors to be opened and closed at will, so that patients might sit and walk there during wet and windy weather. Further useful additions would be seats with shelter overhead and on three sides, turnable so that the shelter might be turned against the wind, and the patients sit there with the whole front open, even in rain and windy weather. I should also be inclined to erect in suitable places walls with reflecting surfaces, to serve as shelter from wind and as reflectors of the sun's warming rays. Hammocks would be at times likewise a comfort.

There are, also, small sanitaria for consumptive patients at Bournemouth and Torquay; but the number of beds added together is almost infinitesimal compared with the number of consumptive patients belonging to the poorer classes. If there were a hundred of such hospitals they would be a fair instalment of what is required to meet the most necessary wants. I should not recommend large hospitals, but small ones, for 80 or 100 beds, with from one to three or four patients in each room; with balconies to hold one bed, so that one febrile patient could be moved into the open air, and more than one such ought never to be in the room. There should be large verandahs for exercise and sitting in wet and windy weather, shady and sunny seats, seats such as roughly sketched above, with turnable shelter to be used in windy and wet weather; and in other respects arrangements similar to those at Ventnor and Brompton. Each hospital ought to have a resident medical officer, and there ought to be ample room for exercise on level as well as on rising ground; the neighbourhood of a pine forest would be a farther advantage. They ought to be in the country or at the seaside, on account of the greater purity of the air. Even in the suburbs the air is much purer than in the interior of towns; thus Miguel found in ten cubic inches of the air of Montsouri (a suburb of Paris) 7600 microbes; in the Rue Rivoli (in the centre of Paris) 55,000; and a still much larger number, as already stated, in the hospital wards, especially in the winter. It would not be difficult to find fairly suitable localities. Surrey, Kent, Berkshire, and Hampshire have good sites. On the southern slopes of their pine-clad hills—for instance, between Leith-hill and Ewhurst Windmill, between East Grinstead, Frant, Wadhurst, and Ticehurst; between Ripley and Cobham; on the Chobham ridges; between Farnborough, Minley, Bramshill Park and Eversley; near Haslemere, on the slopes of Black Down and Hind Head. The southern coast and also the south-eastern offer fair localities, if care is taken in the selection of the spot with regard to shelter, dryness of soil, and exercise ground. The Undercliff, for instance, and the neighbourhood of Bournemouth still possess some not yet overcrowded sites; also Torquay, Sidmouth, Lyme Regis, Dawlish, Hastings, and perhaps Sandgate; on the coast of North Devon and Cornwall and near Llandudno and in Bute good spots could be found. I know, gentlemen, that small hospitals for consumption such as I have suggested are expensive, and that it would be difficult to find the money, but if you are convinced of the advantage to the

patients, and will use your influence, donations and legacies will come in, and in the course of time we shall take a step in the right direction.

3. *Exercise.*—Exercise is one of the most powerful and essential means of cure. It is as necessary as air and food, because it enables the invalid to take both in a sufficient quantity to improve the nutrition by taking up fresh material and removing the waste, and thus to fight a battle with a fair chance of success. Without exercise I should not like to treat phthisis. To take exercise properly requires, however, the guiding hand of the physician; there are judicious persons who can be taught to become sufficiently acquainted with their entire condition and their surroundings to enable them to do neither too much nor too little, but such persons are rare amongst consumptive invalids. In many of them the nutrition of the brain has suffered as much as that of the stomach and lungs and other systems, and their judgment with regard to their own state and their wants is impaired. We ought, therefore, to bear in mind that by far the majority of those suffering from phthisis require constantly to be held by "leading reins," and must be told what kind of exercise to take, how much, and at what times; walking on level, climbing gently, and with measured increase as to duration and steepness. Riding on horseback, skating, and tobogganing are all useful exercises under guidance, but over-exertion ought to be carefully avoided, and one mistake often destroys the fruit of months and years of judicious management. Up to a certain point the sense of fatigue is a guide, but not always, for some persons feel fatigue at the beginning of a walk and improve while taking it, and others never acknowledge to themselves the sense of fatigue. The medical man alone can measure the amount of strength, and how it can be maintained and increased by gradually increasing exercise. Climbing is especially useful, as it brings the whole systems of circulation and respiration into play, and leads to expansion of the lungs and thorax and strengthening of the respiratory muscles. Regulated climbing for a course of weeks and months in suitable cases has a wonderful effect on every organ and function of the body; not only respiration and circulation, but the digestion, the action of the skin, sleep, mental power, resistance to changes of temperature, all show the beneficial effect, and we scarcely doubt that this is due to an improvement of Beale's bioplasm, or "living matter," in the cells. Riding on horseback is likewise excellent exercise, exhilarating and accelerating the circulation, and through this the respiration; and it has been the principal means of treatment in several cases of recovery under my observation (Sydenham). Riding on donkeys may, in some localities, be substituted for horse exercise. Tricycling is likewise useful to some invalids. Pulmonary gymnastics—i.e., a methodical deep inspiration, followed, after a pause, by full expiration, practised in pure air several times a day are very useful in chronic non-febrile cases. Well-arranged exercises of the upper extremities materially assist the expansion of the apices and the subclavicular regions. Where active exercise is impossible from great weakness, or forbidden from inflammatory complications, the movement in a Bath chair is especially to be recommended, and by turning the head against the wind it can be used in almost all weathers. Open carriage exercise is likewise good, but there ought to be very little wind, or some arrangement for sheltering from the wind, by having, for instance, the front hood up, and sitting with the back to the horses, which can be well arranged in landaus. Those who have the chance of being moved in a boat up and down a river, or on calm days on the sea, often derive great benefit from this mode of motion. In some cases under my observation well-arranged journeys, in agreeable company, in rowing-boats, or small yachts, or steamers up the Thames, the Rhine, the Main, the Neckar, the Danube, the Isar, the Seine, and Meuse, have had very beneficial effect on body as well as mind, and the latter ought never to be forgotten in phthisis. In some very chronic cases of nerve prostration, with inability to walk and to take food in sufficient quantity, massage can with advantage take the place of active exercise, being a powerful accelerator of tissue-change, and leading to increased breathing and improved circulation. I have as yet had only a few cases in which I have recommended a plan somewhat analogous to that of Weir Mitchell and Playfair, though very much less energetic, but with evident advantage on the nutrition, muscular and and mental energy. It appears to me, so far as my experience goes, that there should be no active lung symptoms. The open-air treatment has been combined in those cases with massage, the patients having been placed during a greater part of the day on couches in the balcony, or in the garden. Walking exercise was not allowed during the first part of the massage treatment, but was gradually substituted for it.

4. *Strengthening of the Skin.*—Weakness of the skin is one of the prominent features as well in the tendency to phthisis as also in the developed disease, and ought always to be taken into consideration and remedied if possible. A slight change of external temperature, or exposure to a slight draught or change of clothing is apt to produce chill, which by reflex action is thrown on the lungs; it is also a frequent source of bronchitis and catarrh of the lungs, and also of digestive derangements and a great obstacle to recovery in phthisis. Constant exposure to the open air and exercise are the best tonics for the skin, and often suffice by themselves; but in many cases these must be combined or preceded by the judicious use of hydro-therapeutics. The skin has never been altogether neglected in England either by medical men or the public, while on the Continent the neglect has been incredible, and is still so in many localities, hence systematic hydro-therapeutics have had their origin on the Continent; and in the treatment of phthisis too Brehmer was the first to introduce them with special modifications,—viz., powerful cold douches to the chest of very short duration. Unger, Spengler, Dettweiler and others have continued and modified this system; Jaccoud, Sée, and other French physicians are powerful advocates for hydro-therapeutics. Much benefit is no doubt obtained by well-adopted procedures, but they require most careful management by the medical man. Even the ordinary treatment of the skin in itself ought to be guided by the doctor, who will not only examine the state of the skin, but also the condition of the heart and circulation in all its bearings; the degree of reactive power must be cautiously appreciated and gradually raised. In great weakness dry rubbing by an attendant of one part of the body after another is all that can be done; then rubbing the chest with a moist towel, and dry rubbing afterwards. Later on a very rapid sponging with tepid, and again later with cold, water, followed by a short return to bed, and a light, warm breakfast. It requires a considerable degree of reactive force to bear with advantage on rising in the morning the sponging of the whole body by cool or cold water, followed by brisk friction as daily practised by the majority of us in health, and forcibly recommended by J. Henry Bennet, whose views on the hygiene of phthisis have exercised good influence. A rapid plunge into cold water is in many cases of fair reaction the best plan. In others a very short shower bath, and, again, in others a tepid bath for a couple of minutes, followed by a momentary cold shower or plunge into cold water. Many sound hints on bathing and on the management of the skin may be gathered from the editor of the "Book of Health," in his article on the skin. Although by this means the skin becomes strengthened, yet the invalid ought never to neglect woollen clothing from head to foot. He ought not to overload himself with heavy garments while walking or riding, but he ought to have plenty of warm wraps when he sits down or takes passive exercise. The influence of dress on health has been well discussed in a paper by Mr. F. Treves in the "Book of Health," and Pettenkofer's little book, translated into English by A. Hess, is full of useful information.

CASE OF ANEURYSM BY ANASTOMOSIS ON THE HEAD,

TREATED BY LIGATURE OF THE COMMON CAROTID ARTERY, AND SUBSEQUENT LOCAL LIGATION.

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ANNIE S——, aged nineteen, came first under the observation of Mr. Cardew at the Cheltenham Dispensary, in November, 1881. She then complained of a pulsating swelling at the back and right side of the head, involving also the right ear, which was greatly enlarged. She had had some swelling about that position throughout the whole of her life, the first stage having been a nævus, which had never been subjected to any treatment. During the twelve

months previous to her seeing Mr. Cardew the tumour had increased rapidly in size, and had frequently burst, severe hæmorrhage in each case ensuing. The patient was a strong-looking girl of short stature, who, with the exception of occasional headaches, had enjoyed excellent general health. On examination, a considerable tumour was visible, evidently a cirsoid aneurysm, otherwise styled aneurysm by anastomosis, extending from the back of the right ear to the occipital protuberance, and extending as high and descending as low as the upper and lower borders of the temporal bone, occupying, in fact, about twenty square inches. The tumour was of a pulpy consistence, and pulsated forcibly, as also did the ear. A loud thrill was audible over it. It was covered with small and thin-walled venous projections, which were the sites of the frequent hæmorrhages. After a specially severe and dangerous hæmorrhage about the middle of December, 1881—she was stated then to have lost about three pints,—her friends and herself became seriously alarmed, and requested the institution of some radical treatment. Accordingly she was shortly afterwards admitted into the Cheltenham Hospital, and came under the care of Dr. Ferguson. There, after due consultation, it was decided that the common carotid artery should be tied, and this was accordingly done in the ordinary manner and with the full Listerian precautions that have been employed by all the surgeons of the Cheltenham Hospital since the year 1876. The operation presented no difficulty, and calls for no remark save that, the omo-hyoid muscle passing apparently somewhat higher than is usually the case across the neck, it was easier to secure the artery below than above the muscle; in which former position it was accordingly reached and tied. The ligature was of chromic catgut of medium thickness, most obligingly sent to Dr. Ferguson by Sir Joseph Lister. And in order that his kindness should not be unnecessarily trespassed on hereafter, we would desire in this place to repeat Sir Joseph's information, that chromicised catgut of identical quality can be supplied by David Marr of Holborn. The patient's progress after the operation was typically satisfactory, there having been neither pain nor any (even the most trifling) elevation of temperature. In fact, the dressings were finally removed on the eleventh day after the operation, exposing then the firm cicatrix of a wound that had evidently healed by first intention. The immediate result of the operation was the shrinkage, almost to disappearance, of the tumour and the complete cessation of the pulsation. It was, therefore, no small disappointment to notice after the removal of the dressings that a slight pulsation was again perceptible over the site of the tumour. However, she was shortly afterwards dismissed from the hospital in good health and spirits and well pleased at the result of the operation. During the next six months her history presented no points of special interest, save that the tumour became still less noticeable, and that the pulsation remained obscure. But after this six months' period of quietude a collateral circulation succeeded in establishing itself to a somewhat considerable extent, and the tumour began again to increase and pulsate somewhat after its former fashion (though much less forcibly), and there was even some recurrence of hæmorrhage. This being the case, Mr. Cardew (to whose care she had returned) determined to ligature the tumour subcutaneously. One half of the tumour was accordingly ligatured with a silk thread in the usual manner, the latter being tightly tied. The result was the entire stoppage of the pulsation in the part tied. The silk was tightened every day for ten days, after which time, when it had almost cut its way out, it was removed. This process of ligation brought about a notable consolidation of one-half of the tumour, and this at the expense of but little pain or suppuration. Some few days afterwards the posterior auricular artery was ligatured on a pin, which had been first passed under it, this step being taken in consequence of its large size and evident connexion with much of the remaining pulsation. Two months later the other half of the tumour was similarly ligatured subcutaneously, and again, six weeks later, as an additional safeguard, the whole was once more subcutaneously re-ligatured. With this last ligation the treatment ended, almost complete obliteration of the tumour having been effected, with an entire removal of the hæmorrhagic tendency; and on inspection of the patient on March 7th, 1884, and eighteen months after the cessation of treatment, it was evident that a substantial cure had been effected. Some slight softness only was apparent at the position of the former growth, but there was no feeling of pulsation anywhere, save over an artery in the position of the occipital, and the ear, which was formerly so tumid, had returned to a moderate size. The hæmorrhagic tendency had not again manifested itself, and the patient's health and spirits were of the best.

Remarks.—The chief interest of this case lies in its close resemblance to the one treated by Mr. Storks and Sir William Fergusson, and narrated in the latter's System of Practical Surgery (p. 151), where much information respecting such cases will be found. Sir William Fergusson, however, trusted more to obliteration of the vessels in the growth by pins and ligatures, and Mr. Cardew to ligation *en masse*. In respect to all such cases it may be doubted if the treatment by pins or direct ligation could be safely applied without the preliminary tying of the chief nutrient artery, in reference to which question the following remarks of Sir William Fergusson are much to the point. "The practice above described was certainly attended with considerable hazard, both on account of the inflammation as well as the hæmorrhage, and it was not without misgivings that I adopted it. But the case seemed otherwise hopeless, and the previous obliteration of the common carotid led me to trust that such bleeding as might occur could be controlled. Without this preceding step it may be doubted if the result would have been equally successful; and I am therefore disposed to attribute the satisfactory issue to a combination of the two methods—viz., first, the obliteration of the main arterial current towards the disease, and then the destruction of the vessels in its substance." It is interesting, finally, to note the success of both these cases in the face of Billroth's direct condemnation of the treatment pursued (Surgical Pathology, vol. ii., p. 337), as interesting as it is to remember that the treatment which was written about so warmingly by John Bell is that very one of extirpation most highly commended by Billroth.

Cheltenham.

THE BACILLUS OF SYPHILIS.[1]

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TRANSLATED BY DR. J. N. BLOOM, B.A., M.D.

SINCE Hallier's time, a period of almost twenty-five years, the virus of syphilis has been the subject of frequent communication and of almost constant discussion; but, nevertheless, the conviction is universal that none of these researches have even partially solved the question, because of their countless contradictions, inefficient methods, and errors that are easily recognised. And further, as my effort is not the continuation of any preceding one, I will not tax your time and patience by a review of the literature of the subject, but will at once detail my own observations, referring for the literature and development of the subject to a publication of mine shortly to appear.[2]

My researches with syphilitic products have led to the discovery of micro-organisms which until now were unknown, which are constant in their appearance, and which are thoroughly characteristic. They approach nearest in their morphological appearance and staining reaction to the bacilli of leprosy and tuberculosis, and, like these, are to be found in granulomata. By means of the method about to be given they appear as straight or curved, and sometimes irregularly bent rods, which are on an average from three and a half to four and a half micro-millimetres long, and from one-fourth to three-tenths thick. With a low power they appear uniformly smooth, presenting here and there a bulbous swelling at their extremities. With a homogeneous immersion lens (one-twentieth of an inch, Reichert) their surface appears irregularly undulatory, and slightly notched, yet in a manner such as to leave no doubt as to their rod nature. Within them we recognise, at equal distances from one another, oval, colourless, bright spores, from two to four in every bacillus. I never saw the bacilli lying free, but always enclosed in cells. These cells are from a trifle larger than, to double the size of, white blood-

[1] A paper read before the Royal and Imperial Society of Physicians of Vienna, on March 27th, 1885.

[2] Die Syphilis Bacillen, Wiener Medizinische Jahrbucher, first quarter, 1885; also as a brochure about to be printed by Braumueller, Wien.

corpuscles. They are round, oval, or irregularly polygonal, and sometimes show a central or eccentric oval nucleus in the shape of a light spot. The bacilli are to be found in them singly or in groups of from two to nine or more, sometimes intertwined, or, again, in irregular confusion. The cells containing bacilli occur sparingly in the midst of the infiltration, more often on the borders of the same in the apparently normal tissue immediately adjacent. I have observed them in papules embedded between the prickle cells of the rete Malpighii, and also in the initial lesion in the lumen of a large lymphatic duct. It seems to me to be beyond doubt that they possess the power of active locomotion—migratory cells. To obtain these results I had to employ a new method. Starting with the idea that bleaching measures would be serviceable in microscopic work, as well as in the arts and trade, I succeeded, after numerous fruitless attempts, in finding what I sought in permanganate of potash and sulphurous acid. In brief the method is as follows. Sections, which have been hardened in alcohol, are coloured in a solution of gentian violet (Ehrlich-Weigert),[3] from twelve to twenty-four hours at the ordinary temperature, and then for two hours at a temperature of 104° F. The section, in order to be decolourised, is first washed in absolute alcohol for several minutes, and is then, by means of a glass or platinum needle, conveyed into a watch-glass containing about three cubic centimetres of a 1½ per cent. aqueous solution of permanganate of potash. In this it remains about ten seconds. As a result, a brown flocculent precipitate of the hyperoxide of manganese is formed in the fluid, and also covers the section. It is then placed in an aqueous solution of chemically pure sulphurous acid, in which it is deprived of the hyperoxide of manganese, either instantaneously or in a very short time, dependent upon the concentration of the acid; it now appears entirely rid of its colouring matter in some places, while in others it is still deeply coloured. It is next washed in distilled water, and is again placed in the solution of the permanganate of potash, in which, as in the succeeding repetitions, it remains three or four seconds, and from which it is again conveyed to the sulphurous acid. When it appears colourless, which as a rule occurs after this procedure has been gone through three or four times, it is dehydrated in alcohol, rendered transparent in clove oil, and mounted in Canada balsam. Xylol Canada balsam is best. This method of decolourisation, to which, besides those already mentioned, the bacilli of leprosy and tuberculosis do not yield, not only permits the micro-organisms of syphilis already described to be brought to view, but is a characteristic staining reaction of them. The bacilli of syphilis, leprosy, and tuberculosis are not decolourised by my method. All other bacteria are. The bacilli of syphilis, however, are differentiated from those of leprosy and tuberculosis in that the latter are not decolourised by nitric and hydrochloric acids, whereas the bacilli of syphilis are. My method failed in the examination of splenic fever, typhoid, equinia, endocarditis ulcerosa, croupous pneumonia, various secretions of wounds, the contents of acne and scabies pustules, and also in the examination of normal tissue. I wish also to mention that my attempts to prove the presence of these micro-organisms in two chancroids were futile.

By means of the method just given I have examined sixteen cases of syphilis, which I will simply enumerate without going into particulars. Sections of two initial lesions; a lymphatic gland; three papules and four products of the tertiary stage; and further, the secretions of three initial lesions, and of the same number of moist papules. The result was a positive one in every case. The number of bacilli found varied. In general they were not very numerous. As regards the number, the age of the infiltration, and perhaps also the length of time since infection, are of importance. Thus I found in every section of two initial lesions, and of a periosteal gumma in a new-born child, one or more groups of bacilli, and here and there quite large groups among them; whereas in other cases a series of sections had to be examined before the undoubted presence of bacilli could be confirmed. According to my experience, the proof of the presence of the bacillus in syphilitic products is of equal diagnostic importance to that of the tubercle bacillus in the sputum.

Inasmuch as I have found, as a constant factor in undoubted syphilitic products of various kinds, a special kind of bacillus which differentiates itself in form and staining reaction from all those known up to the present time, and which therefore is a specific bacillus, and as we believe ourselves justified as regards other infectious diseases in assuming the constant occurrence of peculiar micro-organisms to be the cause of the disease, I maintain, as regards syphilis, that it is very probable that the bacilli which I have discovered are the carriers of the syphilitic virus. In addition to this specially important result the above-mentioned researches present several other theoretically and practically important facts and deductions, which I will briefly mention. The occurrence of bacilli enclosed in lymphoid cells whose power of locomotion, according to my before-mentioned observation, is beyond dispute; further, the occurrence of bacilli in the apparently healthy tissue lying nearest the infiltration; and, finally, and most especially, their discovery in the initial lesion in a closed lymph-duct—support the theory that the poison of syphilis is conveyed from the place of infection, first by the lymphatic system, and later through it into the blood-vessels. The occurrence of bacilli in the rete Malpighii is of great theoretical interest, and accords with the clinical observation that in certain cases syphilitic infiltrations need only lose their covering of horny epidermis (moist papules) to be contagious.

As I have shown bacilli of the same nature as in primary and secondary products to exist in typical gummata, we must look upon the latter, as indeed do the greater number of syphilologists, as specific syphilitic affections. Only a few writers have evaded the difficulty, inasmuch as they consider gummata to be the result of a specific cachexia, and not of a syphilitic virus, basing their claim upon a number of negative inoculations, and pointing out that syphilitic patients in the tertiary stage, as a rule, produce healthy—i.e., non-syphilitic—children. Recall to mind how long Ricord and his followers maintained the non-infectiousness of the products of the secondary stage, where the circumstances were so much simpler, because of the much greater frequency, the situation, and the nature of the manifestations. Further, I cannot understand why because one has some local syphilitic deposit he should not have healthy generative cells, and as a result should not produce healthy children. In heredity we must not forget that there are affections of the generative glands which have, perhaps, no subjective or clinical symptoms, and yet are followed by the production of diseased generative cells, or, at least, of spermatic fluid containing the virus. I know from a personal communication of Armauer Hansen, and I have been in a position to convince myself of it, that the testes of leprosy sufferers contain numerous bacilli in and between the seminal ducts, whether symptoms of disease of the testicles exist during life or not. In the future the question as to whether a given case is syphilis can only be affirmatively answered if the presence of the specific bacillus can be demonstrated.

In conclusion, I venture to hope that by continuous research, particularly in the cultivation and inoculation of the bacillus which I have discovered, etiological relation between it and syphilis will be so decidedly proved that none will deny it, and that a means will thereby be attained for successfully combating one of the saddest diseases of the human race. The experiences of the last few years in the successful attenuation of the virus of splenic fever and other infectious diseases warrant the hope that this expectation is not over-sanguine.

[3] One hundred parts of a concentrated aqueous solution of aniline with eleven parts of a concentrated alcoholic solution of gentian violet.

CLINICAL MEMORANDA OF TWO CASES OF CHRONIC VAGINITIS.

WITH REMARKS.

BY J. BRAXTON HICKS, M.D. LOND., F.R.S., &c.

CASE 1. *Vagina throughout covered with granulations: freely bleeding: complete recovery.*—A widow, of about sixty years, applied to me in consequence of a constant bloody discharge from the vagina. To the finger it felt velvety and granular, from os to vulva, bleeding on examination. The passage of the speculum caused much distress, and also bleeding; and it revealed the fact that from one end to the other the vagina looked as if covered by granulations as of a healing wound. The bleeding being severe, it was necessary to swab the whole surface over with tincture of perchlo-

ride of iron diluted with three or four times its weight of water. This restrained the bleeding, but gave some pain. Astringent injections of tannin were used daily, and every third day the speculum was passed, and a sponge saturated with the dilute tincture of perchloride of iron left behind, and subsequently withdrawn. As this gave much distress, injections of the same solution were used alternately with tannin solution (two drachms to the half pint.) The vagina was very sensitive, and all manipulations were attended with distress. But at the end of a month she was free from the bleeding, and in a few weeks more the vagina had resumed its normal state.

CASE 2. *Severe chronic vaginitis, with constant and free secretion of pus for over a year; treatment by injections hitherto useless; cured.*—This case, though not raw and bleeding like that just described, was with this exception the most severe of any I have seen. Throughout the whole passage it was felt to be granular and velvety, and through the speculum the mucous membrane was observed pouring forth purulent secretion in large quantity. Her age was about thirty, married. The condition had come on gradually, and there was no information leading one to suspect it to have had its origin in gonorrhœa. She had been under treatment by injections for a year before I saw her. She was admitted under my care into Guy's Hospital, and the vagina treated by means of the speculum. Various applications were used in succession: nitrate of silver (twenty grains to the ounce) once; swabbing with the iron solution, as in the former case; plugging with cotton having powdered tannin diffused in it every day for some time—all of which gave gradual improvement. After a fortnight I applied a drachm of anhydrous sulphate of zinc to the upper half of the vagina, plugging it below with cotton well greased. This caused considerable pain and some exfoliation of the vagina; but when it had passed over, the vagina made a quick recovery, aided of course by continued though milder injections, till she left the hospital cured in about a month from admission.

It is not often that cases of like severity are seen; but many present themselves of long standing, with a granular state of the vagina and pus-like discharge, defying the former treatment. But these are obstinate only for the reason that they have not been thoroughly and perseveringly treated; either the syringing of the lotion has been inefficient, applied in vertical posture, or by a sponge only to the vulva, it having never properly reached the upper portion of the vagina. The mode of application is of more importance than the kind of drug employed. The material should be in contact with the diseased membrane for ten minutes at the very least, if possible for an hour, or, better still, for twelve hours; if used as an injection, the patient should be in the horizontal position. But it is best in all cases to commence treatment with a good swabbing of the upper half of the vagina with strong carbolic acid or iodised phenol through the speculum, which should be retained for five minutes, and then the superfluous portion removed by dry cotton. Care should be taken that a portion be not drawn down to the vulva; if it should be, pain will ensue; this, however, can be removed by washing the part with wet cotton. Care also must be taken lest the carbolic acid run down the speculum on to the thigh or drawers, for if it does, a blister will ensue, and much grumbling likewise. This carbolic application might be repeated in about six or seven days, whilst twice every day an astringent lotion can be employed as strong as can be borne without distress. Of these there are numerous kinds:—Chloralum solution (one ounce to the half pint), tannin (two drachms to the half pint), boroglyceride (one ounce to the half pint), the old sulphate of zinc and alum lotion, tannin and alum mixed, tannin with iodoform, bichloride of mercury (1 in 1000). Preceding the use of either of these, it is well to employ an antiseptic douche, in order to wash away the secretions which would impede the action of the astringents. But I prefer to apply every three or four days, through the speculum, a stronger astringent than can be employed by the syringe—such as the tincture of muriate of iron diluted three times, strong chloralum; or, as recommended by Dr. Oldham, the walls of the vagina can be kept apart by a plug of cotton. An excellent way of effecting this is by using pledgets of cotton with a string attached, diffusing through them dry powdered tannin and alum with a little iodoform, passing these through the speculum and leaving them behind, and removing them after twelve hours. This can be done every second or third day. But I think that although the healthy vagina tolerates anhydrous sulphate of zinc and the tincture of muriate of iron or the weaker solution, yet when it is abraded or spongy these agents are apt to cause exfoliation of too severe a kind. The ordinary sulphate of zinc or alum, however, it will readily bear. These and similar expedients will, if continued steadily, almost always cure the condition as far as the vagina is concerned; but inasmuch as the mucous membrane of the uterus is often involved, attention must be directed to this part, or the vaginitis will recur.

George-street, Hanover-square, W.

MALT AS FOOD.

BY J. MILNER FOTHERGILL, M.D.

MALT as food has a great future before it. In the process of malting (which is a rapid germination) a distinct change is brought about in the seed. By the action of the diastase the insoluble starch is converted into soluble dextrine, which goes sweet in the mouth, so near maltose is it. The malt-combings, which are too rich in albuminoids for the brewer's purposes, are useful when malt is looked at as a food. Malt contains dextrine (some diastase), soluble albuminoids and phosphates, and when ground is an admirable food, while it is not expensive. Its taste is pleasant. It can be made into a pudding with an egg and some milk, and as such is palatable. It can be made a constituent of a milk pudding with advantage. When the brewer mashes his malt with hot water the diastase remaining in the malt converts the dextrine into maltose, which the yeast (next added) breaks up into alcohol and carbonic acid gas. The best white malt is not heated to more than 190°, as the diastase is acted upon injuriously by a heat above that point. Maltose is a sugar which does not readily undergo the acetous fermentation, and, therefore, as Dr. Mitchell Bruce points out in his "Materia Medica and Therapeutics," "will not give rise to acidity and dyspepsia." This is a great matter, as the cane sugar the cook adds to stewed fruit and milk puddings readily undergoes the acetous fermentation in many stomachs. The lævulose sugar of fruit, like maltose, readily undergoes the alcoholic but not the acetous fermentation. Maltose being less powerfully sweet than cane sugar, a greater quantity is necessary to sweeten the pudding. If the raw starch, semolina, sago, or tapioca be first put in the dish by itself, and placed in the oven for an hour (taking care not to have it burnt by the oven being too hot), not only are the starch cells cracked, but a certain conversion of the starch into dextrine takes place. If to this be then added an equal quantity of ground malt and some hot milk poured on, and the dish be allowed to stand a few minutes before being put into the oven again, the diastase of the malt acts upon the farina and converts it into dextrine and maltose. Dextrine and maltose being soluble, the pudding is very thin. Such a pudding is admirably adapted for invalids and dyspeptics, as requiring scarcely any digestion in the body. For those with whom ordinary milk puddings produce acidity, such a pudding is specially suitable. Ground malt may be added to fresh milk, and forms an admirable food in cases of acute disease. Baked flour perhaps goes better with meat broths, to which it gives a high food value. (Well-baked flour requires but a touch of saliva to render it soluble, and, added to meat broths and gravy soups, renders them very nutritive.) Malt, being sweet, goes better with milk, or apple-water, or tamarind-water, or lemonade, and gives us a food which being all but independent of the digestive act, can be most usefully employed in the sick room. Beef-tea (which alone is scarcely a food) and milk-and-seltzerwater pall upon the palate of the sick person, who craves variety just as do healthy persons. The adoption of ground malt as a food will solve for us one or two knotty questions connected with feeding people when the digestive power is feeble. Drinks like lemonade, made with malt instead of cane-sugar, would not only not go sour in the mouth and stomach, but would contain some phosphates and soluble albuminoids, and so form admirable beverages in pyrexial states. The many malt extracts now in the market are well adapted for such end.

Park-street, W.

PATHOLOGICAL RELATIONS OF FIBROUS DISEASE.

BY CHARLES DAY, M.R.C.S., L.S.A.LOND.

IN asking permission to record in THE LANCET a case connected with a certain group of diseases presenting somewhat peculiar features, I am reminded of a passage in the preface of Mr. Abernethy's work on the "Constitutional Origin and Treatment of Local Diseases," where, supporting his opinion of the advantages resulting from the report of cases, he observes: "If diseases, like other objects which we mean to delineate, be placed in various points of view and illuminated at pleasure so as to show distinctly their various parts, one accurate representation would suffice; but we see them obscurely, and as knowledge increases it seems like light shining from different places to illuminate the various parts of our examination." Thus I think it may be allowed that although the mere account of any case of morbid growth may not be susceptible of practical deductions available in the treatment of such disease, yet it may bring to our knowledge some accompanying phenomena hitherto unobserved, some special characteristic attending the case under observation, or the absence of the special physiological effects usually observed as resulting from the interruption to or cessation of the functions of some particular organ; and I think in the case I have to narrate there will be found points of sufficient interest to merit attention.

A lady, aged forty-five, married, no family, no miscarriage, menstruation having ceased without constitutional disturbance, of good height, fine figure, excellent physique and health, the only interruption being occasional attacks of biliousness attended with "sick headache," having had some fatigue and anxiety from attendance on a sick relative during the month of January, 1882, necessitating her getting up perhaps more than once in the night to see to the invalid in the adjoining room, was attacked with catarrh. As this subsided she complained of pain in the lumbar region and shoulders, which was regarded as rheumatism resulting from the cold. But in March inconvenience was experienced from a frequent desire to pass water, with difficulty in micturition, which increasing, an examination was made on April 2nd. There was no fulness in the hypogastrium indicative of any accumulation of urine, neither was there any tenderness. On passing the catheter not more than half a pint of urine flowed out; but although the quantity was small it afforded some relief. It was of a natural colour, sp. gr. 1019, and healthy to ordinary tests; no sediment, merely mucous cloud. After a short use of the catheter, the quantity removed each time being very small, the irritability of the neck of the bladder gradually subsided, but returned in a fortnight, causing painful efforts of expulsion, with the result of passing only a few drops at a time. This condition suggested the necessity of a more thorough examination, for although there was no sign of uterine trouble save the pain in the back, now of diminished force, the rheumatic character of which appeared to be confirmed by its attacking the lower extremities, the knees, ankles, and feet becoming very painful and swollen, the joint of the great toe presenting the usual appearance of gout, the patient at the same time being exceedingly apprehensive of and sensitive to anything touching the foot, yet treatment affording no relief, and nothing to be detected amiss with the bladder, it was evident the mischief was deeper seated. On passing the finger into the vagina it encountered an obstruction which felt like the os uteri, patulous, thickened, and corrugated, the first impression being that it was a case of prolapsus, but proved to be a fibrous growth springing from the sides of and encircling the ostium vagina. Passing the finger through the centre of this growth, the upper part of the vagina felt as though roofed in with a firm, smooth body—the uterus retroverted,—the walls of which were infiltrated with fibrous deposit, the whole being firmly adherent to the brim of the pelvis, the result no doubt of perimetritis. In the left labium was a fibroid perfectly round and smooth the size of a large gall-nut. In the left labium was a similar growth of smaller size, and on examining the rectum patches of induration could be felt. From the commencement to the end of the case there was not the slightest tendency to hæmorrhage, neither was there any discharge beyond a slight moisture, having no unpleasant smell save a faint odour somewhat resembling blood halitus. The progress of the case became very rapid, the growth in the vagina increasing until the central orifice was not larger than a No. 12 bougie. For the first two months the appetite was fairly good, but gradually became more and more impaired; then came on nausea, pain after food, and at last rejection of food by vomiting, unaccompanied with coffee ground sediment, merely the food returned. The urine—dating from the time when the catheter was first used, April 2nd, when scarcely half a pint could be withdrawn—became less and less in quantity until none could be withdrawn by that instrument; and from June 2nd to June 16th, when the patient expired, the secretion entirely ceased. During this time no inconvenience or any desire to void urine was experienced; neither was there any accompanying ascites, anasarca, or delirium, no evidence of toxic action from retained urea, unless the sickness and rejection of food could be referred to that cause, and not to malignant disease. The mind remained undimmed until the last moment arrived. Only for a short time in May did she complain of being disturbed by dreams, generally of an absurd tendency. No pain was present to add to the suffering of the patient and the distress of friends. The restless tossing to and fro, the very weariness of weakness as strength went out with the ebb tide of life is painful enough to experience or to watch. The emaciation became extreme and the skin assumed such a remarkable whiteness that it might well be taken to represent the reflection of "pallida mors."

There are several interesting features in this case, which, I think, may be pointed to as deserving consideration. Thus, the urine, which from an early period of the illness was scanty, diminished in two months from the small quantity of half a pint secreted in twenty-four hours to *nil*, and for the long period of fourteen days not a drop was secreted, or if secreted did not find its way to the bladder. If formed without passing from the body, one would naturally look for some corresponding systemic disturbance, some fluid infiltration into cellular tissue or cavity, some disturbed mental functions; but no, we observed none of these things. The stomach alone exhibited disturbed action, which might have resulted from that cause, but which I think there is far greater reason to believe arose from the same organic change which had invaded so many other parts of the body. Then the bowels became equally dormant without any abdominal fulness, so that ingesta being refused, feeding per rectum of no avail, and the natural outlets for refuse material being closed, one might almost describe the wasting of the body as a process of natural cremation through the lungs. The general state of fibrosis is also remarkable. The vulva, vagina, uterus, rectum, and doubtless the kidneys and stomach, were all impregnated with the same morbid material. The suddenness of its development in an apparently healthy person, its rapid progress, the absence of pain, hæmorrhage or any discharge, the want of a probable cause of its inception, and other circumstances previously referred to, all tend to give additional interest to the examination of the subject, and make us pause, as we too frequently are obliged to do, when endeavouring to trace the why and the wherefore, the *fons et origo*, of those many mysterious and manifold changes which constitute the deviation from that happy state called health, the lot of so few of us, to that other state designated disease.

In formulating a history for the case one is somewhat at a loss. What shall we say? Was it a constitutional cachectic diathesis, such as one might affix to cancer attributable to heredity? or caused by local irritation acting through nervous conduction on an anxious and depressed condition of the mind, inducing by some unknown agency such a change in the blood and eliminating organs as to result in the formation and general deposit of this special morbid material? The pathological position of fibrous disease I think is at the present unsatisfactory, and remains one of interest and doubt. Whether it is a disease *sui generis* of independent origin, unassociated with any disease, acting, as one may say, *loco parentis*, or whether it is essentially cancerous in its nature, and therefore connected with heredity, as held by Dupuytren, Ashwell, and Hodgkin (an opinion which may yet find upholders), is a wide subject for discussion and beyond the scope of this communication. But a case in which scirrhus of the breast existed with fibroid in the vagina, similar to one reported in a recent number of THE LANCET, leads not illogically to the view that, if not identical, there is much to favour the opinion that diseases so associated may result from a similar

constitutional idiosyncrasy capable of developing the one or the other. Inquiring into the family history of the patient, I could not hear of any member who had suffered from cancer in any form, but there had been gout, an attack of which manifested itself during the progress of this case.

Since reading Mr. Hutchinson's admirable Bowman Lectures, in which he traces a very intimate connexion between gout and various diseased conditions of the eyes, I have been impressed with the thought whether a similar relation may not be found to exist between that disease and other maladies, such as the one in point and others of a more malignant character. Additional force has been lent to the thought by the following circumstance. A family with a long history of gout has in the last two generations suffered but little inconvenience from it. The grandfather of the present generation was the last who experienced any violent attack. He was a "martyr to it," and crippled by it. He had four children, two sons and two daughters. Of these one of the sons only had two sharp attacks in middle life, remaining free up to the time of his death, which occurred at the age of seventy from cancer of the pylorus. Not one of his six children had any positive attack of this complaint (gout), although two of the sons had enlargement of the great toe-joint, but one daughter died of cancer of the breast, two sons of cancer of the bowels, and one son of cancerous ulceration of the leg. Cancer was unknown in this family when gout was in the ascendant. I can relate another case of a lady having gouty ancestry who became the subject of scrofulous ulceration of the glands of the neck. Some time after these healed a fibrous tumour formed in the uterus attaining a large size, unattended with pain or hæmorrhage, the health remaining unaffected. Sir James Paget also in his Bradshawe Lecture, "On Some Rare and New Diseases," like Mr. Hutchinson, tracking certain of them, more perhaps by history than pathology, discovers gout to be the source whence they spring, suggesting that as the typical form becomes less common, others hitherto unknown, or but little recognised, assume a prominence and attract attention by their increasing number, and though presenting at the first glance scarcely any feature by which their relationship would be suspected, yet, as he observes, "types vary in diseases as in species," and "the certainty and probable extent of this variation must seem the greater if we consider the mingling of diathesis in transmission from and through both parents." Thus he says, "In phlebitis we very often trace a variation from the customary type or standard of the very old and heritable disease—gout; in short, all the evidence of being one of the many forms of what is called incomplete gout." Osteitis deformans, rickets, and mollities ossium appear to have some relation to gout, "for some of the cases have known inheritance of gout," and are sometimes seen in "typically gouty persons."

It must be allowed that in searching after an "unknown quantity" a certain amount of guessing is permissible, and I think, with Sir J. Paget, "that it is a legitimate use of the imagination which may happily discern a way towards the truth." Hence, when we find fibroids and cancer associated or separated, yet blastemal formations developed in individuals of a typically gouty descent, it can scarcely be called "using the imagination to the furthest bounds of propriety" to suggest that they both owe their existence to the same dyscrasia. As one swallow does not make a summer, so deductions made from one or two cases may perhaps be regarded as only hypothetical, yet they may serve as a basis on which co-operation may establish a substantial structure of facts confirmatory of the view here suggested.

St. Mark's-square, West Hackney, E.

THE BRITISH OPHTHALMIC HOSPITAL, JERUSALEM.—On the 27th ult. a meeting in furtherance of the interests of this hospital was held in the Jerusalem Chamber, Westminster. The chair was taken by Sir A. H. Layard, and amongst those present were Sir Edmund Lechmere, Bart., M.P., Hobart Pasha, Sir Richard Temple, and Mr. Mocatta. The hospital was founded in 1882 by the English branch of the Order of St. John, and is chiefly intended to provide proper treatment for the peculiar diseases of the eye prevalent amongst the population. At present the hospital contains only four beds, and is maintained at an annual cost of £300, but double the amount is needed to carry on the work effectually.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas at morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

CHARING-CROSS HOSPITAL.

CASE OF LATE CONGENITAL SYPHILIS OF THE THROAT; TREATMENT WITH MERCURY AND RECTAL ALIMENTATION; CURE; REMARKS.

(Under the care of Dr. BRUCE.)

THE diagnosis of the later manifestations of congenital syphilis is sometimes extremely difficult, especially when, as in the case which we publish, there are few, if any, signs in the patient himself of previous disease. In the absence of personal and family history in such cases it is sometimes necessary to wait until the effect of treatment has been tried. Although congenital syphilis at the age of this patient is not often fatal, still from the situation of the local lesion it may become so, and the treatment by nutritive enemata which Dr. Bruce adopted had without doubt very great influence in producing the cure of the case.

W. D——, aged thirteen, from Kent, was admitted into Charing-cross Hospital on Sept. 2nd, 1884, suffering from severe ulceration of the throat.

History.—He stated that his illness commenced about a month ago with inflammation of the lungs, followed within a week by the sore-throat, which has persisted ever since. From the first there was pain on swallowing and discharge from the mouth, and he immediately began to lose flesh. Previous to this illness the boy had been fairly healthy, but not robust. It was ascertained that as a baby (? aged two years) he suffered from rash and snuffles, and was treated at King's College Hospital. He has recently been living in an isolated house, in a healthy district, and the drains have been in good condition. He is the second of nine children; the eldest is alive and well, but all the others snuffled as babies, and several are dead. His father is alive and well. His mother miscarried five times.

Condition on admission.—The patient is a wasted, fair-complexioned boy, confined to bed. He lies with the mouth open, in obvious distress in the throat, and speaks with a very indistinct nasal voice. The skin is of an earthy tint and very dry, without rash or œdema. The uvula and posterior border of the soft palate have entirely disappeared, leaving an ulcerated margin; anterior to this the palate is red and shiny. The posterior wall of the pharynx is entirely occupied by a foul greyish-yellow slough, which extends upwards and downwards as far as the eye can reach. There is no swelling of the glands of the neck. The patient takes food indifferently, owing to dysphagia; part returns through the nose, and part is rejected by vomiting. The liver and spleen are not enlarged; bowels confined. A hacking cough ends in expectoration of mucus and sloughs detached from the pharynx, which contain no tubercle bacilli. The physical signs connected with the lungs, heart, and abdomen are normal. Pulse 74, regular, weak; urine scanty, sp. gr. 1033, without sugar or albumen. Sleep good.

Diagnosis.—Syphilitic ulceration of the throat, congenital.

Treatment.—Mercurial ointment (half strength), a portion as large as a hazel nut to be rubbed into the adductor region of the thigh daily. Pharynx to be rubbed with solution of nitrate of silver, twenty grains to the ounce. To be fed by nutrient enemata of beef-tea, yelk of egg, and brandy, four times a day, whilst allowed to take what food he cares to attempt by the mouth.

Progress of the case.—Sept. 12th: Very little but still decided improvement; rectum becoming irritable. Two minims of tincture of opium added to each enema. Little change in throat. Strength of silver solution increased to forty grains to the ounce. A little brandy taken by the mouth.

16th.—Marked improvement; the patient looks more lively and the throat is less foul, the soft palate looking more healthy, its posterior margin more raw, and the pharynx less thickly covered with sloughs. The enemata are better

retained; a little food, both solid and fluid, taken by the mouth. Urine very scanty and high-coloured.

19th.—Strength increases; but little change in throat since the 16th. Most of the enemata retained; very little food can be swallowed. Spirits improving; voice still thick and nasal. Throat to be swabbed out twice a day with silver solution, sixty grains to the ounce.

24th.—Marked improvement. He sits up for an hour, and is more active and cheerful. No dysphagia; no regurgitation of food; enemata all retained. Back of pharynx presents only a thin slough; posterior part of soft palate merely reddened.

26th.—Moves about the ward. Throat greatly improved, the red base being seen through the grey surface of the pharynx, and the edge of the soft palate looking healthy. Can take most of his food by the mouth, but has still four nutrient enemata daily. Strength of silver solution reduced. Gargle of chlorate of potash ordered. Urine more abundant.

30th.—The slough has entirely disappeared from the pharynx. Strength increased, but three pounds weight said to have been lost within three days.

Oct. 3rd.—Throat now clear. Further loss of two pounds, but strength increased. Slight salivation. Mercurial reduced to one half.

7th.—Weight has increased two pounds. Salivation continued. Mercurial inunction stopped.

10th.—Nutrient enemata stopped. Meat diet by the mouth.

14th.—Steady increase in body weight. Still salivation.

17th.—To take syrup of iodide of iron.

21st.—Has gained two pounds weight in three days. Great improvement in general appearance. Adhesions forming in pharynx, with small points of ulceration.

Nov. 19th.—Discharged cured.

Clinical remarks by Dr. BRUCE.—This case was of considerable interest from its nature, and from a certain degree of difficulty attending its diagnosis; chiefly, however, in connexion with the details of treatment. Active congenital syphilis at the age of thirteen is not so common but that it deserves record, and its diagnosis as a matter of fact may be very far from easy at first. In the present instance the previous personal history and the family history of infantile snuffles were not obtained for several days after admission, and during this time the true nature of the illness was the subject of some discussion. The question of tubercular ulceration was raised, but the absence of swelling of the neck alone went far to dispose of the suggestion. The best immediate evidence of the correctness of the diagnosis of late congenital syphilis was the result of the severe treatment to which the patient was subjected. He was at once put upon mercury. But here a great difficulty arose; the patient could not swallow. Dr. Bruce urged upon the students the absolute necessity of ensuring an abundant supply of nourishment to the tissues whilst a powerful alterative like mercury is being allowed to act upon them. It was contrary to all sound clinical rules to administer mercury to a starving child, and a patient unable to swallow was virtually starving; but just as certainly the patient would shortly die of syphilis. Feeding *per oram* was therefore given up definitely, and regular nutrient enemata ordered instead, whilst the patient was permitted to attempt to eat occasionally small portions of nutritious food. The method proved successful. A stronger solution of nitrate of silver might have been used from the first for swabbing out the throat, but the shock attending free cauterisation of the whole pharynx might have been too great in the prostrate condition of the patient. As occasionally happens, the rectum, which was irritable at first, came to retain the nutrient enemata very well. There was free salivation for a time, although the mercury was reduced, and soon omitted when the mouth became tender. Another curious fact was that the boy continued to lose weight, whilst his general appearance and strength and the local disease were all steadily improving.

DUNDEE ROYAL INFIRMARY.

ABDOMINAL SANGUINEOUS CYST; ASPIRATION; RECOVERY; REMARKS.

(Under the care of Dr. SINCLAIR.)

J. G——, aged fifty-one, flaxdresser, was admitted on May 14th, 1883, with the following history. About two months previously he observed a smooth round swelling just below the umbilicus, which rapidly increased in size; it caused no discomfort except that arising from its rapidly increasing bulk.

On admission, a rounded swelling, quite smooth to the touch, could be made out in the umbilical region of the abdomen, but extending slightly into the other regions. It was of firm consistence, and appeared to be adherent to the anterior wall of the abdomen (the umbilicus not being movable over it). No fluctuation or impulse could be elicited. There was no bruit on auscultation. The tumour occupied the umbilical part of the epigastric, hypochondriac, and right lumbar regions, and a very small portion of the hypogastric region. It was clearly separable from the hepatic dulness by a narrow resonant line, and it did not move with respiration. The hepatic and splenic dulness were of normal extent; no abnormal signs were discovered in the lungs; the cardiac dulness was normal, but the sounds were weak; tongue slightly furred but moist; appetite good; bowels constipated; temperature 99°; pulse 70, weak; respiration 28; urine pale, slightly acid, sp. gr. 1018, no albumen.

17th.—Hypodermic needle was inserted into tumour, and a syringeful of dark sherry-coloured fluid was readily withdrawn. The fluid contained nearly 50 per cent. of albumen, abundant red blood-corpuscles, and some amorphous masses. No echinococci or hooklets. Sp. gr. 1020.

21st.—The tumour was aspirated in its centre, and sixty ounces of fluid were withdrawn, of the same character as that removed by the hypodermic syringe.

22nd.—The patient complained of sickness yesterday after the operation. No trace of tumour.

June 2nd.—Patient got up.

6th.—He was dismissed in good general health, the tumour having entirely disappeared.

Remarks by Dr. SINCLAIR.—I can find no description of a similar cyst in Bright's classical memoirs. One, in some respects similar, is described by Bauer in Ziemssen's Cyclopædia.[1] It terminated fatally after two tappings. In THE LANCET of May 5th, 1883, Dr. Bristowe described two cases of abdominal cysts which resembled the one just described in the rapidity of growth and sanguineous contents. The first he concluded to be probably either a simple cyst of the spleen or a distended kidney, more probably the latter. The second had a much larger history, and was found on post-mortem examination to have been a sanguineous cyst resulting from a round-celled sarcoma. Dr. Clifford Allbutt has described a case[2] presenting some points of resemblance to mine as regards its contents; but it had a rather higher situation, required three aspirations, re-formed subsequently, and then disappeared after an attack of diarrhœa and colic. Dr. Oliver's case,[3] which occurred in a female, yielded 148 ounces of blood-red fluid on the first, and 84 ounces of similar fluid on the second, tapping, made a much slower recovery than mine, and was considered by him to be probably a hæmatocele of ovarian origin. The case described by my friend, Dr. Reid, and which was watched with great interest by us all, was clearly, I think, unconnected with any of the solid viscera of the abdomen. That it was not hydatid was evidenced by the absence of hooklets on careful microscopical examination. I can see no ground for considering its origin malignant. The impression is that it was a cyst of peritoneal origin, possibly owing to a traumatic cause, as the patient is a man of intemperate habits. I saw the man some time ago, a year after dismissal, and found him in good health, and quite capable of performing his usual work; but I thought I discovered some traces of reaccumulation. As cases of this kind are of great interest and rarity, I shall keep a watch on the patient, and report his further history should the disease return.

DOUBLE THORACIC ANEURYSM; DEATH; AUTOPSY.

(Under the care of Dr. SINCLAIR.)

For the following notes we are indebted to Mr. J. Mackie Whyte, M.A., M.B., house-surgeon.

J. W——, aged forty-nine, a tall well-built man, employed as a labourer in a jute works, was admitted on Feb. 14th, 1884, as an urgent case. His history was that he had been subject to pain in the chest since the middle of December, 1883, when he fell downstairs while drunk, and received a scalp wound, but no other external injury. The wound healed, but the pain in the chest became worse, catching his breath. For the past fortnight his voice had been hoarse, and he had had a troublesome cough, with inability to expectorate the mucus, which caused a disagreeable rattling noise. Had been in the army; while there he had acquired syphilis; otherwise previous health had been good.

[1] Vol. viii., pp. 338–39.
[2] THE LANCET, July 7th, 1883.
[3] Ibid., Oct. 11th, 1884.

On admission, he was in a state of great dyspnœa; he spoke in a hoarse whisper; cough of a ringing character; throat dry; no difficulty in swallowing; pupils equal; radial pulses equal, 54 per minute, regular; pain in region of heart apex on any exertion; a "gripping" pain, constant, in interscapular region; general præcordial heaving, and epigastric pulsation; apex-beat in fifth space, nipple line; systolic murmur in mitral and aortic areas, loudest in mitral; second sound accentuated, with a distinct pump-valve character, best marked in aortic area; dulness in upper part of thorax extending from one inch to right of manubrium across sternum for five inches. This dulness was continuous with the cardiac dulness. There was also dulness in the left interscapular region, opposite the spine of the scapula and a little below. The second sound was distinctly heard accentuated over this area. Physical signs of lungs normal, except for occasional bronchitic wheeze. Examination of larynx showed paralysis of left vocal cord. Urine normal. Great improvement followed the treatment, which consisted of rest in bed and administration of bromide and iodide of potassium internally. On May 19th the patient was sent to the Dundee Convalescent Home, but was refused admittance, as he had got drunk on the way.

He presented himself again at the infirmary on Oct. 29th, as bad as ever. Had been employed chiefly in carrying bales of jute; always felt a "gripping" pain in the chest when lifting. Physical signs much the same as when in the infirmary before. Left radial pulse smaller than right, 66 per minute. Improvement was slow, and relapses of dyspnœa occurred. Towards the end of November breathing was very noisy.

On Dec. 10th, about 10.15 A.M., the patient, who had been sleeping quietly, was seized with a paroxysm of dyspnœa. There was laryngeal stridor, like cock-crowing; the face became blue, and he sprang out of bed, saying he was dying. In about five minutes he expired. His face became pale after death.

Autopsy.—Right pleura adherent in whole extent; some tough adhesions also in left, especially near the upper part. Thoracic contents removed in mass with some difficulty, on account of close adhesions to the vertebræ. There had been no escape of blood from the vessels. Heart empty of blood; both auricles dilated, walls very thin; left ventricle considerably hypertrophied. Aortic valve incompetent; no vegetations but dilatation, circumference being three inches as measured when laid open. Mitral valve somewhat dilated. Ascending part of aorta showed fusiform dilatation, circumference four inches. Wall athoromatous, with calcareous deposits. The dilatation extended as far as the origin of the left common carotid; the vessels arising from the arch were not themselves involved. Thus the transverse portion towards its termination was of normal calibre, but at the bend it suddenly dilated into an aneurysm larger than a cricket-ball. This consisted of two parts, separated by a constriction; the anterior had the same lining as the aorta, with which it was obviously continuous, the posterior had a wall which was dark in colour and rough, and was largely filled by a laminated organised clot. The pressure of this part had caused deep erosion of the bodies of the third, fourth, and fifth dorsal vertebræ, in front and on the left. The left vagus was traced over the transverse part of the arch and its branch, the left recurrent laryngeal was followed round part of the aneurysm, where it was thickened and irregular, and up alongside the trachea. Neither trachea nor œsophagus showed any effects of pressure; the latter was close to the aneurysm. Lungs much congested; also the abdominal viscera. Fibrous adhesions from old peri-hepatitis all over the liver.

Remarks by Dr. SINCLAIR.—The history of this case clearly suggested aortic aneurysm; the symptoms on admission pointed most distinctly in the same direction; and the physical signs left no doubt that we had before us a case of aneurysm of the arch pressing on the left recurrent laryngeal nerve. In every respect, then, the record was singularly complete and satisfactory up till the moment of the patient's death, which occurred quite suddenly. The autopsy showed that it was not due to rupture of the sac, as might have been anticipated. In the absence of any other quite satisfactory explanation, I suppose paralysis of the heart may be suggested as the most likely cause. The case is interesting also from the fact that there were two distinct aneurysms, separated by a short interval of aorta of normal calibre. This circumstance alone seems to me to be of sufficient interest to justify its being placed on record.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Discussion on Cholera.

THE adjourned discussion on cholera was held, and the debate concluded, on Tuesday last, Dr. George Johnson, F.R.S., President, in the chair.

Dr. HENEAGE GIBBES said that he fully agreed with everything that Dr. Klein had said. In acute cases of cholera, instead of a pure cultivation of comma bacilli in the lower part of the ileum, comma bacilli were to be found few and far between. Cultivations of the small straight bacilli in a large number of test tubes proved that these bacilli were not young comma bacilli, but belonged to a distinct species, for they grew in a totally different manner, did not liquefy the gelatine, grew on the surface chiefly, and were not motile. That the comma bacilli were not discovered in the tissues was certainly not due to defective staining. He had used every possible staining fluid and combination of fluids, but had found no comma bacilli, in the intestinal walls. A case of infantile diarrhœa showed a more pronounced morbid change in the intestines than exists in cholera, and so the intestinal lesion could not account for the collapse of cholera. In one case in Lieberkühn's follicles many putrefactive bacilli were present, and this specimen was shown to the Society.

Sir GUYER HUNTER said that, as he understood, Koch had shown that the comma bacillus stood in the relation of cause and effect to cholera. He did not believe that cholera was dependent on the action of a germ. He referred to the characters of the last outbreak of cholera in Egypt and in France as proving his contention. The report on Egyptian cholera presented to Her Majesty's Government also maintained the same views. He considered that cholera had been proved to be non-contagious. A surgeon, writing in the *Practitioner* of July, 1875, advised the injection of chloral hydrate in doses of 10 grains in 100 minims; this treatment in his hands had been so disastrous that he was compelled to stop it. He did not agree that opiates increased the danger from collapse; any premonitory diarrhœa should be treated by opium and stimulants. He believed cholera to be due to a series or combination of conditions. If the germ is killed by decomposition, then cholera ought not to exist in localities where filth and garbage abound. Strict hygiene was the only way to prevent the occurrence of cholera. Any form of ill-health predisposed to cholera.

Dr. PYE SMITH spoke of the choleraic discharge, and agreed with Cohnheim that this was not of inflammatory origin. In cases of cholera sicca large quantities of detached epithelium were present in the intestines, but this was probably the result of post-mortem change. Moreau obtained a "paralytic secretion" by section of the mesenteric nerves, and the large quantity of effusion thus obtained coincided in many respects with the choleraic discharge. The nervous influence was conveyed, not through the splanchnics or vagus, but by way of the smaller mesenteric ganglia derived from the solar plexus; and excision of these ganglia led to the production of a large intestinal effusion. He was in accord with the generalisation made by Gaskell, to the effect that the exciting influences were conducted by means of grey nerve fibres, whilst inhibitory influences passed along the medullated nerve fibres.

Mr. MACNAMARA said that no epidemic was known to have arisen outside the confines of British India. The statements made by Klein with regard to infection were in absolute variance with the conclusions of all previous workers. It was remarkable that the comma bacillus should correspond to the characters of the contagium as described by Parkes—viz., that it was destroyed by acids, that its life in water was very brief, and that the conditions under which the water was placed must be of a certain kind. He referred to the case in which choleraic discharge polluted some water of which nineteen individuals drank, and within thirty-six hours five of these persons were dead of Asiatic cholera. He quoted many circumstances and incidents tending to prove that cholera was a contagious disease. From his observations made on individuals dead of cholera, he could not agree with the views expressed by the President on the existence of spasm of the pulmonary

arterioles, for he had not found distension of the right side of the heart. He was not successful in the treatment of cholera by castor oil; he had seen the best results by the use of opiates and astringents.

Dr. JOHN MURRAY thought that the habitat of the poison of cholera was the mucous membrane of the intestines: it first caused paralysis of the sympathetic, which prevented the excretion of effete material. The left ventricle was sometimes occupied by a coagulum, which was black at first, but tended to become decolourised. A feeble fluttering pulse was the sign of the formation of a clot in the heart. In his experience laxatives were most dangerous, and in this he was corroborated by the experience of observers in all parts of India. Any remedy which promoted the secretion of the bile and gastric juice was of value in the early stage of cholera. Transfusion of hot saline solutions caused the spasm of the pulmonary arterioles to pass away.

Dr. HERON reverted to the question of the bacteriology of cholera. From the beginning of the growth of the various comma bacilli, it was possible to distinguish Koch's bacillus from all the others. All the comma bacilli could be distinguished from one another. In cholera nostras the comma bacillus of Finkler would be found, and not the bacillus of Koch. He thought that cases of cholera might be distinguished from cases of cholera nostras by a cultivation of the comma bacillus; the mode of growth was so different. He said that Koch and Klein agreed that there was a comma bacillus peculiar to cholera, which was to be found nowhere else. The comma bacillus of Lewis was different from that of Koch. He had examined eight cases of tubercular diarrhœa without discovering the comma bacillus of Koch, and so could not agree with Klein's statement on this point. Koch and his staff of assistants held themselves in readiness to go to any part of Germany in order to determine by bacteriological research whether a case submitted to them was one of Asiatic cholera or not. We were indebted to Koch for this possibility of diagnosing true cholera, as we were for so many other discoveries in medical science.

Dr. THIN said that many people certainly believed that the comma bacillus of Koch could be found in other diseases and conditions besides cholera; he thought that Dr. Klein, or those who reported him, were responsible for this impression. He narrated circumstances which seemed to show that hygienic conditions, and kinds of food, such as lettuces manured with human excreta, did exercise an influence in the production of cholera.

Dr. J. JOHNSTON had had much experience of cholera at Shanghai. Cholera prevailed when the fruit season began. Cholera was predisposed to, if not caused by errors in diet, carelessness in the use of purgatives, and other forms of indiscretion. Drinking water was certainly active in the causation of cholera. Evacuant treatment in his hands was decidedly harmful.

Mr. SEDGWICK said that at the time he wrote his work on the Urinary Secretion in Cholera and Diarrhœa he was not aware that urea was a binamide of carbonic acid; knowing this he had less difficulty in understanding how the preformation of carbonic acid in the tissues and blood should continue and the preformation of binamide of urea should cease through the defective oxidation of the blood. M. Doyère had investigated the chemistry of respiration in cholera. In normal respiration there were 44 vols. of CO_2 discharged in every 1000 vols. of expired air to every 165 vols. of oxygen taken up. The relative diminution in the amount of carbonic acid in the expired air in cholera was accompanied by an increase in the proportion of the oxygen. In collapse about three-fifths of the normal quantity of CO_2 were discharged, and the oxygen absorbed was largely in excess of the carbonic acid eliminated. In cholera the mammary secretion and all other secretions having to do with the generative organs were not interfered with. Encysted dropsy of the ovaries suffered little or no diminution in amount. Anasarca might disappear completely, as Dr. Barlow had shown, in cases which recovered. Menstruation was not delayed or checked in cholera unless the period were about to commence. The liquor amnii and urinary secretion of the fœtus were not stopped. He did not agree with the view expressed by Mr. Simon, that cholera always proved fatal to the fœtus, and quoted some statistics of a French author in this regard.

Dr. MACLAGAN believed that the poison of cholera was a micro-organism, for nothing but a living thing could reproduce itself. It was a peculiarity of parasites that each had its own nidus. Cholera had its relationship with the acute specific fevers. The nidus in cholera was the epithelium of the internal viscera, and especially of the small intestine. He did not agree that the shedding of epithelium was a normal post-mortem change. The collapse of cholera might be likened unto the rigor of onset of the specific fevers.

Mr. SCRIVEN could not understand how the viscidity of the blood in cholera could not be due to a loss of water, for the blood had unlimited power of appropriating fluid from all the tissues. He could not agree with the views of the President in this respect. He dwelt at some length on the treatment of the various stages of cholera.

Dr. LOWNDES said that diffusible nutritive fluids, like Liebig's raw soup, in small doses every half-hour, were most valuable in the treatment of cholera.

Dr. JOHNSON, in reply, maintained that the distension of the right side of the heart was a fact testified to by Dr. Edmund Parkes before his own observations and experiments had been made. Dr. Sutton, in the fourth volume of the London Hospital Reports, confirmed the same observations. The right side of the heart was distended and the left nearly empty in cases of cholera. He said that chloral hydrate did not abolish arterial spasm. He contended that spasm of the pulmonary arterioles explained the greater number of the phenomena of collapse, and still maintained the accuracy of his views as to the evacuant treatment in the early stages of cholera. He fully recognised the existence of cholera so severe that no treatment could avail.

CLINICAL SOCIETY OF LONDON.

Treatment of Spina Bifida.—Choreiform Movements in Infantile Spasmodic Paralysis.—Carcinoma and Calculus of the Bladder.—Pistol-shot Wounds.

AN ordinary meeting of this Society was held on the 27th ult., Mr. Thomas Bryant, F.R.C.S., President, in the chair.

Mr. MAYO ROBSON (Leeds) read a paper on a Series of Cases of Spina Bifida treated by Plastic Operation. He described four cases on which he had operated:—Case 1. A. S——, aged six days, was the subject of a spina bifida the size of an orange; operated on Oct. 26th, 1882. The child lived and thrived for a year, when it died after a day's illness from teething convulsions. The site of the tumour presented only a linear scar. The interposed periosteum had not formed new bone. (The excised sac was shown to the Society.) Case 2. Mary A——, aged eighteen days, a puny, ill-developed child, with a large spina bifida in the lumbar region; the sac was thin and translucent quite to the margin of the tumour, and the skin around inflamed. It was all excised except two narrow portions, which were sufficient to form meningeal flaps, these being covered in by skin flaps obtained by separation and sliding from the lumbar regions. The wound healed by first intention, but the child died from a continuation of the marasmus present before operation. At the autopsy the whole lumbar spine and part of the sacrum were bifid. There was no meningitis. (Specimen was shown to the Society.) Case 3. L. J——, aged sixteen, the subject of spina bifida in the lumbar region, the size of a fœtal head, was admitted to the infirmary to have tenotomy performed for talipes. The sac of the spina bifida began to inflame the day after admission, before any operation had been done, and produced high fever and severe head symptoms, threatening life. It was aspirated eight times between November 13th and December 9th, the last three aspirations yielding pus. She was rapidly losing ground and apparently sinking, so on December 11th Mr. Robson excised the sac after reflecting the skin by crucial incision; the cavity was drained for a few days. The head symptoms were at once relieved, and she recovered rapidly, being discharged cured twenty-four days after operation, with the wound quite healed, and only a scar where the tumour had been. (Patient shown to the Society.) Case 4. D. C——, aged seven, had a spina bifida in the lumbar region, seven inches and a half in circumference; sac thin and inflamed at fundus; skin dissected from sac, and redundant sac and integument removed; suture of meninges by catgut, and of skin by wire. The wound healed by first intention, and the patient was discharged cured thirteen days after operation. The child was shown to the Society six weeks after with a linear scar where the tumour had been. All the operations were performed strictly antiseptically, the eucalyptus atmo-

sphere being used instead of the spray. The points to which he would draw attention are—1. The principle of closing the meninges by bringing together two serous surfaces, as in peritoneal surgery, and superimposing separate skin flaps, the meningeal and skin lines of the suture not being apposite. 2. The great importance of observing strict antiseptic precautions, as a septic condition would probably end in the same way as these cases usually do when they spontaneously ulcerate—viz., by meningitis and convulsions. 3. The success attending the plastic operation in cases which are absolutely not amenable to any other form of treatment—e.g., where the coverings are thin, or the opening into the spinal canal large. 4. The possibility of transplanting periosteum, and its capability of surviving, as in the case read first. One may hope that the use of human periosteum—"e.g., from a recently amputated limb"—will give better results. 5. The successful issue of Case 3, where, although the sac was acutely inflamed, its complete removal with efficient drainage effected a cure. This case presents several points of pathological importance—e.g., (*a*) The rise of temperature without septicity apparently due to tension of, or pressure on, the great nerve centres. (*b*) The great relief given by aspiration. (*c*) Suppuration in the sac, possibly due to simple tension, probably not due to septicity, as the fluid was quite sweet on every occasion. (*d*) The entire absence of brain symptoms after operation, although the pressure on the great nerve centres must have been considerably interfered with during the time of healing of the wound. Mr. Robson suggested the following as a practical classification of cases of spina bifida for purposes of treatment—(1) Where no operation can or should be done. (2) Where no operation need be done. (3) Where an operation should be done. Class 1 (*a*) Where the deformity is very extensive, as in fissure of the whole or a considerable portion of the vertebral canal. (*b*) Where there is complete paraplegia. (*c*) Where the sac is large, the fissure extensive, and the coverings excessively thin up to the edge of the tumour, and no skin can be obtained to cover the meninges. But that such extreme examples even may stand a chance of cure is proved by Case 2. Class 2. Where nothing need be done. Where the sac is small and the coverings are so dense and firm as to form a good pad over the opening in the spinal column. Class 3. Where some operation should be done. (*a*) Where the sac only communicates with the spinal canal by means of a small opening; here it is a simple matter to dissect off the skin, expose the neck of the sac, ligature it by means of one circular ligature, and cut off the redundant meninges, bringing the skin over so as to have the line of skin sutures quite at the side away from the pedicle. Such an operation was performed by Mr. Ed. Atkinson, one of Mr. Robson's colleagues at the Leeds Infirmary. (*b*) Where the sac has a good skin cover and communicates with the spinal canal by a large opening, it is quite easy to perform the operation described in Case 1, carefully closing the meninges, and, if possible, placing the line of skin sutures away from the meningeal line of union. Such cases have been operated on successfully, not only by Mr. Robson but by Prof. Jessop, U.S.A. Human periosteum might be placed between the meninges and skin, but Mr. Robson is not at all sure that a thin plate of bone, if formed, would be very serviceable. If the expanded neural arches be large, he thought it might be feasible to bend them towards the central line, and by uniting them with thin silver wire, obtain a truly physiological closure of the spinal canal. (*c*) Where the coverings are excessively thin up to the margin of the tumour, as in Case 2, the operation is more difficult and uncertain, as the skin can only be obtained by a process of sliding from contiguous parts, and the tension necessarily present is not conducive to healing. (*d*) Where the spinal cord or the nerves are blended with the sac, he advises excision of portions of the redundant meninges at one or more places between the nerves, replacing the nervous structures in the spinal canal, and bringing over the skin cover; free drainage should be kept up between the membranes and integuments, or if this could not be done, the membranes might be punctured, the collapsed sac, with the nerves intact, being placed in the canal, and the skin cover made as before. It is important to remember that a silver or a leather shield should be worn over the site of the operation in order to protect the parts from injury, and to prevent the cicatrix from stretching or giving way.—The PRESIDENT said that the surgical treatment adopted by Mr. Robson gave surgeons an additional means of dealing with cases of spina bifida. He considered that there was not sufficient evidence to show that the method of injection was one which could be regarded as a good surgical procedure. He congratulated Mr. Robson on having been so successful in the four cases which he had treated. It was remarkable that the nerves were not involved in a large number of cases of spina bifida. The last suggestion with regard to the treatment made by the author was a good one. No doubt the committee now sitting on spina bifida would carefully consider the method of treatment advocated by Mr. Robson.—Mr. R. W. PARKER joined with the President in congratulating Mr. Robson on the successful results of his plan of treatment, yet he could hardly think that it would lead to results very much superior to those obtained by treatment of a less operative kind, for the lesion was a very profound one in many cases, such as no operation could rectify. An examination of the specimens in the London museums showed that the cord and its nerves entered the sac in upwards of 95 per cent. of all cases, a fact which itself contra-indicated excision of the sac wall; but if the sac wall were simply tucked in after the normal skin around its base had been detached, and, after more or less evacuation of the fluid, a satisfactory result might be obtained. The Society's subcommittee were just about to present their report, and, as a member of that committee, he would refrain from anticipating the conclusions which would be expressed in the report. He was sure Mr. Robson's paper would receive every attention. He might add that cases of cure by injection had been reported in which, as was found on post-mortem examination years later, the cleft in the spinal column was found to be very extensive. In the infant shown, although the sac was absent, there appeared still to be a soft fluctuating swelling over its former site.—Mr. RICKMAN J. GODLEE said it was evident that in the plastic operation of Mr. Robson there was no great risk of producing meningitis, and in this respect it seemed almost a safer method than injection with Morton's fluid. Reference was made to two cases which he had recently observed in which the injection of Morton's fluid was followed by the development of meningitis. In one case the child had convulsions, hemiplegia, and vesical paralysis; cystitis set in later on; the patient ultimately died. The occurrence of severe symptoms after surgical treatment might in some way be related to the frequency, with which some part of the spinal cord was involved in the sac, though in many cases the filum terminale could be the only part involved, and this was comparatively an unimportant structure. He spoke of a post-mortem examination which he had recently witnessed on a case of spina bifida in which the three or four lower sacral nerves were involved, and arose from points slightly to one side of the middle line, which he supposed was occupied by the expanded filum terminale of the cord. He said that Mr. Robson's was a line of treatment that would have to be carefully considered.—Mr. R. W. PARKER said that the spinal cord extended the whole length of the spinal column in intra-uterine life, and there was practically no filum terminale. Moreover, he had never succeeded in detecting the filum terminale in any specimen that he had examined.—Mr. MAYO ROBSON, in reply, believed that there were many cases of spina bifida into the formation of which no part of the spinal cord or nerves entered. It was impossible for distension of the filum terminale to give rise to the kind of sac which he exhibited, and which he had removed from one of his cases. With regard to the injection of Morton's fluid, in all the cases in which he had seen it used the result was fatal.

Dr. W. B. HADDEN read notes of a case of Choreiform Movements Supervening in Infancy and of Congenital Origin. The patient was a female, aged twenty-two; there was nothing to note in the family history, except that a sister died of fits at the age of ten months. The mother had had no miscarriages, but was said to have suffered from albuminuria for two months before the patient was born. Labour came on at full time, lasted twelve hours, and no instruments were used. Very soon after birth the child's head used to fall back, and she did not sit up like other children. There were no fits and no head injury. She never walked better than she does now. Movements were first noticed when the child was aged seven months, but did not attract serious attention until the age of two years. They have persisted ever since. She began to talk between the age of two and three years. Catamenia appeared at the age of fifteen, have always been regular, but scanty and painful. Patient is a short, stout, well-developed girl; is quite intelli-

gent, reads fairly, but cannot write because of the condition of her hands. Her head is large and flat, but symmetrical; palate hard and a little arched; no deformity of spine. Movements very slight when lying down, and absent during sleep. They are at once noticeable on attempting movement, or if the patient be excited. The face and upper limbs are mainly affected. On trying to speak the face becomes contorted. The angles of the mouth are retracted, upper lip and alæ nasi raised, the forehead wrinkled, the eyelids partially closed. Hence, there are various and rapidly succeeding grimaces. An appearance of gaiety is followed by a frown, by a sniff of disdain, and by a momentarily lacrymose aspect. The speech is interrupted and the words brought out explosively. The muscles of the back and abdomen are unaffected. There are slight movements of the tongue. The fingers are flexed at the metacarpo-phalangeal joints, and extended at the phalangeal. But this position is not fixed. Fingers are often expanded, and there are simultaneous-to-and-fro movements, suggesting athetosis, but more rapid and various. Some rigidity exists about the muscles of the arms and forearms. The muscles are well developed, and respond well to galvanism. Her grasp is feeble. Her legs are short, well developed, and as she lies in bed have very fair power. She cannot stand or walk without help. When supported she shuffles along, the legs overlapping, and the knees rubbing together, and the thighs being adducted. There is much resistance to passive movement of the legs; the tendon reflexes are probably exaggerated; there is occasional ankle-clonus; sensation, both common and special, is perfect; no loss of control over evacuations. The case belongs to a group which, though having individual differences, all possess one common feature, the spastic condition of the legs and the peculiar gait. The spastic paraplegia may exist alone, with or without affection of the arms, constituting Charcot's spasmodic tabes dorsalis, or infantile spasmodic paralysis. In two cases described by the author there were atrophic changes in the upper extremity. In addition to the present case he has seen two very similar instances. In connexion with the spasmodic paraplegia of infants other symptoms may be present, such as fits, mental defect, nystagmus, squint and inequality of pupils, deformity of chest, a symmetry of skull, delayed dentition, and defects of speech. The lesion in the case described was probably congenital, a porencephalous defect. Dr. Ross describes a very similar case, apparently due to injury in infancy. The author has never been able to satisfy himself that infantile spasmodic paralysis and congenital athetosis are dependent on injury either during or after birth. Treatment of various kinds was tried in the present case, but without benefit.—Dr. ANGEL MONEY thought that the case was interesting from many points of view. The presence of tonic and clonic spasms, with some impairment of the conduction of volitional impulses, in one and the same case, was instructive. It was suggested that tonic and clonic spasms were essentially due to differences in degree of innutrition of the nerve cells of the anterior horns, which energised the muscles. With regard to morbid anatomy, he considered that destructive lesions of any sort in any part of the pyramidal tracts could induce the symptoms of such cases.—Dr. HADDEN, in reply, said that some cases were of congenital origin, and some might be due to arrest of development of the fibres of the pyramidal tract which grew downwards from the large motor nerve cells in the cerebral cortex. In some cases the course of the cortico-medullary fibres appeared to be arrested high up in the brain; in other instances the paths were interrupted lower down. Cases had been put on record in which the spastic conditions appeared to be dependent on atrophy of the pyramidal tracts without any sclerotic change. That injury during or at birth may give rise to spasmodic paralysis seemed to have been placed beyond doubt by a case recorded by Ross. A case in which fits beginning in the paralysed arm were the first symptom was referred to; the legs were in a condition of spastic paraplegia.

Mr. JOHN R. LUNN read notes of a case of Calculus and Tumour of the Bladder. J. C——, aged thirty-five, married, a stoker by trade, was admitted into the St. Marylebone Infirmary on Sept. 8th, 1884. Four weeks before admission he noticed his water run away involuntarily, and had attended as out-patient at a hospital, where he was sounded. Two weeks before admission he was obliged to give up work and his urine became very offensive and thick. On admission, No. 10 catheter was passed, which gave the patient a good deal of pain; the urine was loaded with albumen and pus. The prostate was apparently enlarged. The patient was again sounded on Sept. 17th, when a stone was struck. Lateral lithotomy was performed on the 18th, and a large calculus removed from the bladder, weighing 1½ oz., composed of oxalates, phosphates, and a little uric acid. In addition to the calculus a new growth was felt, which was too extensive to remove. The day after the operation the patient expressed himself much better and free from pain. Vomiting set in on the third day. He passed claret-coloured urine through the wound. The left kidney was noted to be enlarged two days before he died, on Sept. 26th. At the autopsy the wound in the perineum looked very unhealthy and showed no signs of healing. The bladder weighed 8 oz., was devoid of urine, and almost the entire surface was occupied by a new growth. No secondary growths were found. Both kidneys and ureters were distended with purulent matter. The right kidney weighed 8 oz., the left 14 oz. Mr. Lunn said that he was indebted to Mr. Eve for the microscopical account of the growth. The structure of the tumour had the character of a soft cancer, the cells were rather small and spheroidal, with large nuclei, and were in no part observed to be arranged in nests. In the softer parts of the tumour they were aggregated in large diffuse, small and rounded masses in spaces formed by a scanty stroma, while in the firmer parts the stroma was abundant and fibrous, and the cells formed elongated rods and masses.—The PRESIDENT remarked on the insidious nature of disease of the bladder. The connexion between growth and calculus was not very common. He referred to a case which had been under his care of papillomata covering every part of the mucous membrane of the viscus, and to another of extensive cancerous disease. He asked if there was much bleeding during the operation in Mr. Lunn's case.—Mr. LUNN answered in the negative.

Mr. RICHARD BARWELL read a paper on three cases of Pistol Shot Wound. The first case was that of a wound self-inflicted with a Derringer of $\frac{1}{3}$th-inch bore. The bullet passed through the seventh costal cartilage, the diaphragm, the stomach, and just notching the kidney, passed out of the abdomen between the first and second lumbar transverse process. The young man survived twenty-two hours. The case was introduced partly to show the power of these small pistols, but chiefly as evidence of the very little bruising which small conical projectiles fired at short ranges produce, there being no ecchymoses round any of the openings into the viscera, &c., save a very little at the kidney. The second case was that of a gentleman who shot himself with a pistol of under ¼-in. bore. The wound was within the areola of the left nipple; but the weapon must have been held obliquely, for the bullet, missing the heart, passed through about eight inches of the left lung and lay outside the chest near the lower angle of the scapula. There was very considerable hæmorrhage from the wound, and coughing caused the blood to be driven out several feet. There was also a good deal of hæmoptysis. Strict quietude, ice, acetate of lead, and opium subdued in about fifteen hours the external hæmorrhage, but the hæmoptysis continued for six days. Pneumothorax and hæmothorax, together with surgical emphysema, were very marked. Pneumonia supervened on the seventh day. After the lapse of three weeks, during which he had been in a very precarious condition, improvement set in, which steadily progressed. On the thirty-fifth day Mr. Barwell removed the bullet, which he had hitherto avoided doing, wishing the wound of exit from the chest to become closed previously. Seven weeks after the injury the man was discharged. The third case was that of a man who shot himself in the mouth and in the ear with a revolver, ¼-inch bore. The wound first named was on the left side of the soft palate, and, penetrating that part, inflicted another in the posterior wall of the pharynx. That bullet has never been found and has given no trouble, it is probably encapsuled among the deep muscles on the left of the spine. The other bullet passed for three-quarters of an inch down the auditory meatus without injuring it on either side, then continuing its transverse course, left that channel by a small wound at its posterior part. A probe passed in here touched a substance which Mr. Barwell believed to be metallic, exactly two inches from the margin of the meatus. The depth and direction of the wound delayed any attempt at extraction, because it appeared to Mr. Barwell that the projectile must lie in very dangerous proximity to the lateral sinus. After forty-eight hours, abundance of clear serum,

which was either cerebro-spinal fluid or liquor cotunnii, became mixed with the blood discharged; the admixture of blood, then of pus, prevented any testing for sugar. The man, who was singularly apathetic, progressed favourably with the exception that a week after the infliction of the wound the parts about the angle and ascending ramus of the jaw swelled, and shortly after suppurated. On Dec. 4th there was in those parts sufficient disturbance to indicate that the projectile was producing considerable irritation, and ought, if possible, to be removed. Moreover, if, as seemed possible, the lateral sinus had been injured, the wound would in the five weeks have healed. With some difficulty, Mr. Barwell passed a Nélaton's probe sufficiently far to obtain the lead mark. Making a curved incision behind the pinna, he trephined the mastoid process to the depth of three-quarters of an inch; finding a small tract leading still deeper, he again got on Nélaton's probe the lead stain, but at a distance from the trephine hole of more than an inch. The track was cautiously enlarged with a gouge, a pair of sinus forceps passed down to the bullet, which, although very firmly fixed in the bone, was successfully removed. After this operation the man had no bad symptoms, the abscess in the jaw was opened, and the hole made by the trephine rapidly filled. All these men shot themselves, the pistols were therefore held very close, and they all used weapons the projectile of which is driven by the fulminate alone. In the last case the muzzle was on the skin, and in a medico-legal point of view it is important to note that there was no mark of burn nor of powder-tattoo. This, Mr. Barwell says, in his experience is the usual condition with weapons of that description. The other lessons from these cases are that small conical bullets discharged at short range bruise soft parts but very little, and though the projectile possesses very considerable velocity, the immediate result of such wounds, unless some peculiarly vital part be hit, is small.

Mr. MAYO ROBSON showed living specimens of two cases of Spina Bifida, which he had treated by plastic operation. Mr. J. R. LUNN showed microscopical sections of Tumour of the Bladder.

MEDICAL SOCIETY OF LONDON.

Treatment of Cervical Caries.—Necrosing Ethmoiditis and Mucous Polypi.—The Larynx in Tabes Dorsalis.

AN ordinary meeting of this Society was held last Monday, Dr. W. Miller Ord, President, in the chair. The meeting was prolonged for half an hour.

Mr. WALSHAM read a paper on the Treatment of Angular Curvature of the Spine in the Upper Dorsal and Lower Cervical Regions by a combination of jacket and collar of poroplastic felt. The apparatus was made at Mr. Walsham's suggestion by Mr. Cocking. The apparatus, which is made of one piece of felt, consists of an ordinary poroplastic felt jacket, together with accurately fitting collar and helmet piece. The jacket and collar are continuous posteriorly, the collar portion being carried upwards over the occiput, and, after encircling the neck, is bent downwards over the shoulder and upper part of the front of the chest, where it overlaps the jacket portion, and is there secured in position by straps and buckles. The cases for which it is especially adapted are those where the caries is situated too high in the spine to be benefited by a common felt or plaster jacket, and too low to be treated by the various collars in use for cervical caries; in short, for cases in which the jury mast is now so frequently used. Mr. Walsham has not been satisfied with the results of the jury mast apparatus. The plaster-of-Paris jacket has no basis of support in the small pelvis of young children, and thus the jacket did not remove pressure from the diseased vertebræ. By means of the poroplastic apparatus the pressure is removed from the bodies of the vertebræ, though the weight might be transmitted through the posterior parts of the spine—i.e., through the articular processes and their supports. The results have been very encouraging. Several of the children who could not stand before the apparatus was applied were able to walk a few weeks later. The gravest objection to which it appeared open is that it is likely to embarrass thoracic breathing; but this is an evil incidental to all forms of jacket. The further advantages of this jacket over the jury mast apparatus were that, besides that it did not slip down in young children and males, the parts are held more steady, the rotatory and lateral movements of the neck in cervical caries are controlled, there are no straps to stretch or to be in different states of tension, according to the varying positions of the head, and the patient can lie down in greater comfort. Mr. Walsham advocated long daily periods of recumbency in the treatment of this form of caries. In conclusion, he urged the advantages of felt as a material for jackets generally, as against plaster-of-Paris. Sweat did not soften the felt unless the temperature reached 150° F. The shape could be well made and maintained. He proved that felt was porous by filling a hollow ball made of felt with smoke. The smoke slowly escaped through the interstices of the felt.—Mr. W. ADAMS thought nothing could be better than the apparatus shown by Mr. Walsham, though Dr. Sayre's improved plaster-of-Paris jacket was sufficient for the treatment of all ordinary cases. The recumbent posture maintained for a long period was of the utmost value; where paralysis supervened, he advised the recumbent posture with extension of the spinal column by means of a special apparatus. Reference was made to a case under his care in which complete motor and sensory paralysis supervened somewhat suddenly. Rest on an inclined plane with extension was followed by considerable and rapid improvement of the nervous disease.—Mr. NOBLE SMITH said that the surgeon should attend to the application of the apparatus. Mr. Walsham relied not on extension, but merely on straightening the spine; in this way a sufficient amount of pressure was taken off. Paralysis might be relieved by this method of treatment. Recumbency in the prone position was most important; in a severe case in a child the prone position was spontaneously adopted.—Mr. CLUTTON referred to a form of apparatus, made of leather and iron of the same pattern as the poroplastic jacket of Mr. Walsham, which was in use at St. Thomas's Hospital. He considered that the apparatus with the jury mast was of no value. Recumbency was a most important point.—Mr. BERNARD ROTH spoke of treatment by passive extension of the spine. He asked how often ablution was performed in Mr. Walsham's patients, and what was done when caries existed high up in the neck. He had seen Fletcher's bags used with advantage.—Mr. WALSHAM said that no doubt recumbency was an invaluable mode of treatment; in disease of the first cervical vertebræ it was imperative.

Dr. WOAKES read a lengthy paper on Necrosing Ethmoiditis and Mucous Polypi. He discussed the question of the relation of the diseased bone to polypi. The disease was extensive, and began as a chronic inflammation of the muco-periosteum lining the turbinate bones as well as the cells of the ethmoid bone; this inflammation of the soft tissues was associated with necrosis of the dissepiments of bones. The catarrh spreads from without inwards. His account of the disease was drawn from a record of eighty cases which he had collected in his experience at the Throat Hospital. As to the etiology, cold in the head, an exanthem (measles or scarlet fever), and blows were the usually assigned exciting causes. Sex showed but little difference. The disease was generally bilateral, the left side was more frequently attacked than the right; it occurred at all ages after puberty, and especially in young adults of either sex. A broadening of the bridge of the nose was sometimes produced. In the first stage the thickened muco-periosteum was rather pale, and could be seen to be hypertrophied, especially over the front of the middle turbinate bone. In the proliferating stage soft reddish fleshy growths were to be seen. Necrosis was always to be detected after the first stage of the disease had been passed. In some cases the hiatus semilunaris was a good deal enlarged. A probe might be passed in many directions, and dead bone struck in the anterior and posterior ethmoidal cells. The necrosis antedates the appearance of the mucous polypi. The myxomatous tissue proliferated near the surface of the muco-periosteum, no matter whether on the free surface of the turbinate bones or within the ethmoidal cells. There was no attempt at a new formation of bone. The characters of the polypi depend partly on their situation. The bones around the nose may be implicated, and so the base of the skull may be perforated, or the orbital wall destroyed at parts, and vision may be lost. The superior maxilla may become affected, and abscess of the antrum, or polypoid degeneration of its lining membrane, take place. In the third stage of the disease thin plates of atrophied bone may be found in the midst of an exuberant polypoid excrescence. The disease, as a rule, tends steadily to progress. Mr. Edgar

Thurston had prepared many microscopical sections illustrative of the pathology of the disease. These specimens and many drawings were shown to the Fellows of the Society.—Mr. SPENCER WATSON asked whether the conclusions were taken by Dr. Woakes as applying universally to mucous polypi. It was difficult to understand that necrosis could have preceded the appearance of all polypi. He said that Professor Silvercandle had shown that one in eight individuals suffered from nasal polypi. He believed that obstruction in the nostril due to posterior rhinitis, or to deviation of the nasal septum, or to chronic hypertrophic rhinitis of the middle turbinate bone, was a frequent cause of nasal polypi.—Mr. CRESSWELL BABER thought that nasal polypi were not always preceded by necrosis or even accompanied by it. The turbinate bones vary in size in different individuals, and it might be difficult to say whether a turbinate bone was of normal size or not.—Mr. STOKER concurred with the views of Dr. Woakes.—Mr. W. PYE said that on examining the nose with a probe in cases of nasal polypi in children, he had nearly always struck dead bone.—Dr. WOAKES said, in reply, that he could not say that necrosis was invariably the precursor of nasal polypi; all he could say was that he had never examined cases of polypi without detecting necrosis. The necrotic spicules are formed *pari passu* with the development of mucous tissue. A normal middle turbinate bone was a rare structure.

The PRESIDENT and Dr. SEMON showed a case of Locomotor Ataxy, with bilateral incomplete paralysis of the abductors of the glottis openers, which they believed was more frequent than was ordinarily supposed. This stenosis of the glottis had gone on under observation, and was unaccompanied by any obvious symptoms. The larynx ought to be examined in all cases of tabes dorsalis. Charcot, McBride, and Ernest Jacob of Leeds had described similar cases of abductor paralysis. A primary rigidity of the glottis muscles was believed in by some German authorities, who said they had never seen a progressive development of the stenosis; these views were refuted by the present case. Tracheotomy might have to be resorted to ere long, and the patient had had several attacks of laryngeal obstruction, which at times threatened tracheotomy.

HARVEIAN SOCIETY OF LONDON.

Early Treatment of Concomitant Squint.—Resection of the Intestine.

A MEETING of this Society was held on the 19th ult., the President, Dr. T. Morton, in the chair.

Mr. W. ADAMS FROST read a paper on the Early Treatment of Concomitant Squint. The author submitted that in practice the truth and importance of the following propositions were not sufficiently recognised:—1. This form of squint seldom recovers spontaneously. 2. It leads, in a few months, to very great impairment of the vision of the squinting eye. 3. The majority of the cases can, in the early stages, be cured by correcting the hypermetropia with glasses. The binocular character of this form of strabismus, and the distinction between a "fixed" squint and an alternating one, were briefly illustrated by means of Mr. Priestley Smith's model. The popular notion that children squint from imitation or caprice, and that they grow out of it, was entirely erroneous. Among the cases treated at St. George's Hospital during the last four years, 60·5 per cent. presented amblyopia of the squinting eye. Amblyopia never appears while the squint is alternating. Of the cases in which there was no amblyopia in the above series, 41·6 per cent. were alternating. It commenced directly the squint became fixed. Hundreds of eyes were lost every year from neglected squint. If, when all accommodation was rendered impossible by the application of atropine, the squint disappeared, it would almost certainly cease by correcting the hypermetropia. Spectacles could be given at a very early age; Mr. Frost had often ordered them for children under four years, and had never found reason to regret having done so. When a child was too young to wear glasses, treatment might be postponed if the squint was really alternating; if it was fixed, either an operation was necessary, or the other eye must be covered to save the squinting eye from amblyopia.

Mr. FREDERICK TREVES then read a paper on Resection of the Intestine. The operation in question dated from about the year 1878, although many isolated instances had been recorded much earlier. Some 150 cases were now on record. The operation was applicable to both the small and the large intestine, and had been performed for the following conditions:—(1) Single and epitheliomatous strictures; (2) neoplasms other than cancer; (3) extensive matting of the bowels, involving obstruction; (4) irreducible intussusceptions; (5) gunshot and allied injuries of the bowel; (6) gangrenous gut in hernia; (7) fæcal fistulæ. It might also be applied to certain perforating ulcers of the intestine. The operation implied merely the application to the intestine of a simple and recognised plan of treatment which was adopted in corresponding conditions to other parts of the body. In most of the affections named, enterotomy and colotomy offered the only other means of treatment; they gave temporary relief only, leaving the cause of the disturbance untouched. In another series of cases the removal from the body as early as possible of gangrenous and putrid parts was obviously indicated. Lastly, the mortality in gunshot wounds of the bowel was so exceedingly high that the operation had in these cases great claims to consideration. The *modus operandi* was illustrated by enterectomy. There were two procedures. In one, the divided ends were united by sutures immediately after the resection; in the other the part was excised and an artificial anus established, which was closed after a time by a second operation. The abdomen having been opened, the loop to be excised was drawn out and placed upon a sponge. The gut above and below was severed either by the fingers of an assistant or by special clamps introduced by Rydygier, Bishop, Makins, and Treves. The gut was excised, and with it a triangular piece of the mesentery, the cut edges of the latter being united by a few points of suture. If the bowel was to be united, the best material was Chinese twist applied by Hagedorn's needle and needleholder. Of the various sutures, the Czerny-Lembert was the best. A row of sutures was introduced involving only the mucous membrane, and a second row involving only the peritoneum. Some fifteen points of suture were needed for the first row, and about twenty-five for the second. Of the two methods, the second was by far the better. Most of the patients were not in a condition to bear a protracted operation. Moreover, the first method did not give complete relief to the obstruction, did not ensure emptying the bowel above the obstruction, and involved great risk from fæcal extravasation owing to the distended state of the gut and to the great risk of gangrene along the suture line. Besides, there was great difficulty in uniting the much dilated upper segment to the shrunken segment below. The mortality of the operation was discussed, its simplicity urged, and a hope was expressed that its application would be cautiously and more widely extended.

EPIDEMIOLOGICAL SOCIETY OF LONDON.

Prevention of Heat Apoplexy.

AT a meeting of this Society, held on the 11th ult., Dr. Norman Chevers, President, in the chair,

Surgeon-General A. C. C. DE RENZY, C.B., read a paper entitled the Prevention of Heat Apoplexy, of which the following is an abstract:—The object of this paper was to apply Indian experience in the prevention of heat apoplexy among the troops in the Soudan. The writer resided for many years at the Multan in the Punjab, one of the hottest places in the world, and saw a great deal of heat apoplexy amongst the British troops and railway *employés*. In the month of June the temperature in the shade rises to 120° F., and a black bulb thermometer registers 176°. An ordinary thermometer, exposed in the sun's rays, registers 157°. The dryness of the air is extraordinary. The mean humidity of May is only 26°, and the maximum humidity is as low as 17°; saturation equal to 100°. Dust storms occur at very short intervals all through the hot weather. The nights are comparatively cool. In June, the hottest month, the minimum thermometer goes down to 71°. About 10 o'clock the sky becomes perfectly cloudless, and the earth radiates the heat stored up during the daytime rapidly. But there are usually three or four intensely hot nights in the year when the clouds do not disperse, and so radiation is obstructed. On such occasions the writer has found his bed so intensely hot that he had to have it sprinkled with water to make it tolerably cool. The mean daily range of May is 34·43°. The climate of the Soudan is several degrees cooler than that of Multan, and not at all so trying, and, as experience shows that a very fair standard of health can with suitable arrangements be secured for British troops at Multan, it is

reasonable to hope that, so far as high temperature is concerned, a similar result may be attained in the Soudan. Contrary to what might have been expected, Multan has long been one of the healthiest stations in Northern India. Taking the returns of the last eighteen years, it stands fifth in the order of healthiness. Bareilly stands first, with a death-rate of 12·01 per 1000. Fort William second, with a death-rate of 12·33 per 1000, while the death-rate of Multan was 15·15 per 1000, or actually lower than the death-rate of the troops stationed in England was thirty years ago. If the mortality from heat apoplexy were reduced, as it might be, Multan, notwithstanding the intense heat of its summer, would be one of the healthiest stations for British troops in the world. All through the summer of 1848 the fort of Multan was invested by British troops, who had little sickness and few casualties from heat apoplexy. Lord Gough, who was Commander-in-Chief in India at that time, was altogether opposed to the operations being carried on in the summer, as he thought it impossible that the troops could withstand the heat. The result proved that his apprehensions were unfounded. With good tents, a good commissariat, and arrangements well adapted in other respects for the protection of the health of the troops, the campaign was brought to a brilliant close by the capture of the fortress, one of the strongest in India. Heat apoplexy causes a large number of deaths among the troops; taking one year with another about 100. Heat apoplexy occurs through very different circumstances—(1) under exposure to the direct rays of the sun; (2) under exposure to great heat in the shade. The deaths under the second head are far more numerous than those under the first. For the prevention of heat apoplexy, especially under exposure to the direct rays of sun, two things are indispensable—(1) that the clothes be loose and light, so as not to interfere with the free movements of the chest and evaporation of the skin, and so as not to obstruct the cervical circulation, and (2) that a supply of drink should always be at hand to relieve the first signs of thirst. The importance of these precautions was illustrated by several striking cases that fell under the writer's notice. At the capture of Rangoon in 1852, of two sets of men who were alike in all other respects, one fought in shirt sleeves under an intensely hot sun, the other in blue cloth tightly fitting coats; many of the latter began to drop down insensible shortly after coming into action, their commanding officer being among the number. The want of water causes great loss of life from heat apoplexy on first service in India. The arrangements for the supply of water are most defective. Natives use immense quantities of water under exposure to the sun, and to this practice was attributed their immunity from heat apoplexy. While the deaths from this disease among the British troops were 20 per 10,000 of strength, they were only 2 per 10,000 among native troops. Heat apoplexy is very rare among officers, who are careful about their dress, and also to have something at hand to relieve thirst. Sportsmen who go out shooting in the hottest weather suffer very rarely. And the disease is unknown among Assam tea-planters, whose business requires them to expose themselves in the sun in the hottest season and at the hottest time of the day. The great majority of the cases of heat apoplexy among soldiers, due to exposures to great heat in the shade, occur between sunset and midnight. This was attributed to the peculiar meteorological conditions of that period of the day in conjunction with the crowding of the men in the canteen. The breeze dies away; clouds form, obstructing radiation; and while this lasts the men crowd in dense masses into the canteen, the ventilation of which is altogether inadequate for the number of men who temporarily occupy it. Crowding, even though it is only for a short period, is most dangerous when the air is very hot. The danger is much increased when, to the crowding, excess in the use of alcohol is superadded. The barracks in the evenings become as hot as ovens. As a means of cooling the barracks it was proposed that they should be douched every evening after sunset. With the present barbarous system of water-supply this suggestion would be impracticable, but if the troops are to be protected against the ravages of cholera and typhoid fever, water must be provided under pressure, as it is in more civilised countries. This proposal when made some years ago had the approval of Mr. Edwin Chadwick, but it was found impossible to give it a trial. In conclusion, it was contended that experience in the hottest parts of India warrants the hope that under good arrangements the losses from heat apoplexy among the troops in the Soudan may be kept within very moderate limits. With good tents of the Indian pattern, attention to clothing, good arrangements for the supply of water, avoidance of overcrowding, especially in tents or huts, and extreme moderation in the use of alcohol, for which tea should be substituted, the losses from apoplexy would be very small.—In the discussion which followed Sir William Smart, Drs. Murray, Scriven, Lloyd, White, Lawson, Cullimore, Comyn, and Squire, and Mr. Shirley Murphy took part.

MEDICAL OFFICERS OF HEALTH SOCIETY.

A MEETING of the above Society was held on Friday, March 20th, Dr. J. Orme Dudfield, President, in the chair.

Mr. A. WYNTER BLYTH read a paper on the Action of Disinfectants on Microzooids. The author enumerated the diseases of animals and men which may be considered beyond a doubt to have an intimate connexion with microzooids—viz., mouse and rabbit septicæmia, a fatal disease of the guinea-pig produced by the micrococcus tetragenus, the anthrax of animals and men, fowl cholera, glanders, malignant œdema, bovine and human tuberculosis, erysipelas, some forms of pneumonia, and acute osteo-myelitis. On the other hand, it had not been proved satisfactorily that diphtheria, scarlatina, relapsing fever, cholera, typhoid fever, and some others were due to microzooids, though the balance of evidence seemed to be in favour of such a view; probably zymotic diseases would come to be recognised as consisting essentially of the invasion of the tissues of individual megazooids by legions of microzooids. The term "disinfectant" the author used throughout as synonymous with "germicide." A colony of microzooids submitted to a solution of a true disinfectant, and then having been freed from the disinfectant and put into the best possible conditions for development and growth, showed no signs of life; the colony had been disinfected—that is, killed. Hence, according to this view, disinfection is either a destruction of pathogenic microzooids or a poisoning of them; the end effected being for practical purposes the same. The author then briefly detailed his own experiments on spore anthrax published in the Royal Society of Edinburgh's Transactions, and summarised the experiments of Schiff and Fischer on phthisical sputum, and those of Fischer and Proskauer on the action of chlorine and bromine. The author had made some observations on mouse septicæmia; threads were infected with mouse septicæmia and soaked for half an hour in Tuson's disinfectant, a saturated solution of sulphate of iron, a 10 per cent. alcoholic solution of cresylic acid, a 10 per cent. solution of sulphenic acid, a 10 per cent. solution of chlorozone, and a strong solution of chloride of zinc. The sulphenic acid and the alcoholic solution of cresylic acid disinfected perfectly the thread; but of the other agents some had no effect, others superficially disinfected. His most recent researches were on the pyridine bases. He had raised a pure cultivation (from the last stages of nasal catarrh) of a yellow bacillus which liquefied gelatine; the liquid gelatine then becoming yellow and fluorescent. This bacillus produced spores of moderate resistance, was not pathogenic, and grew with rapidity at ordinary temperatures. Threads infected with this yellow bacillus were soaked in a 1 per cent. solution of pyridine, collidin, lutidine, and acridine, and then, having been freed from the disinfectant, they were brought up on nutrient gelatine; the threads were found to show no signs of growth around them, whereas the "control" threads grew rapidly. The antiseptic power of pyridine was tested on the organisms found in sour milk, and pyridine was shown to inhibit growth. Since the pyridine bases are present in tobacco smoke, the smoke from an ordinary pipe of tobacco was passed through water, and the resulting solution was found to be, so far as the yellow bacillus is concerned, strongly disinfectant. The results of experiments with the yellow bacillus, when treated with solution of morphine, strychnine, atropine, and other alkaloids, were also given, from which it would seem that strong solutions will kill the bacillus. Turning to the practical aspect of the question, the author summarised the general conclusion to be drawn from these researches. Disinfectants, when they are not destructive agents, act as poisons; they poison the microzooid in a manner not essentially different from the lethal poisoning of a higher life form, and this is the reason why such

poisonous substances as corrosive sublimate, carbolic acid, and chlorine are most to be relied upon. It was evident that to perfectly disinfect, the element of lime must not be disregarded; to receive the specific excreta in a strong solution of sulphate of iron or of carbolic acid, and then within a few minutes cast the excreta into a drain, could only superficially disinfect, and such excreta might in many obvious ways again become dangerous. He considered that the best and most efficient way to disinfect a room after disease was:—First, to make it as much as possible like an hermetically sealed box, and in this box to evolve chlorine; 3 lb. of chloride of lime and 3 lb. of hydrochloric acid for every 1000 cubic feet of space. The chloride of lime was to be divided into several distinct parts in deep vessels, and to be placed as high in the room as possible; the hydrochloric acid was to be mixed with the chloride of lime gradually in the manner described by Fischer and Proskauer. The room was to be kept closed for twenty-four hours. Secondly, all things in the room capable of being submitted to a moist heat were to be taken away to a suitable apparatus. Thirdly, the floor was to be washed with a solution of corrosive sublimate (1 in 1000). The principles of this process had been carried out in the parish of Marylebone for more than a year, and the author considered the method the best at present known.—In the discussion which followed, the President, Dr. Iliff, Dr. C. E. Saunders, Mr. Kingzett, and Drs. Moore, Corner, and Willoughby took part. Mr. Wynter Blyth replied, and the meeting was adjourned.

ACADEMY OF MEDICINE IN IRELAND.

THE opening meeting of the Sub-section of Public Health was held on Feb. 5th.

The PRESIDENT (Dr. J. W. Moore) delivered an inaugural address on the Relations of the Medical Profession to the Sanitary Organisation of Ireland. He contended that the medical aspect of that organisation has signally failed, mainly from two causes—want of supervision and inadequate remuneration. The Public Health Act, 1878, gives only a permissive power (Sec. 2) to the Local Government Board to provide supervision, and naturally this power in consequence has not been exercised. Again, the remuneration allowed to medical officers of health by the various sanitary authorities under the sanction of the Local Government Board is, except in a very few instances, so shamefully inadequate that the only possible result is practically to render the Act a dead letter so far as medical inspection or advice is concerned. Accordingly, he recommended (1) that the Local Government Board, acting as the supreme sanitary authority, should divide Ireland into a suitable number of districts for purposes of sanitary inspection; (2) that each of these districts should be subject to the supervision of an inspecting medical officer of health, or, as such an officer is called in Sec. 11 of the Public Health Act, a medical superintendent officer of health; (3) that the dispensary medical officer should still act as district medical officer of health, reporting as occasion may arise, not directly to the local sanitary authority, but to the inspecting medical officer of health for his district; (4) that the Local Government Board, and not the local sanitary authorities, should appoint the inspecting medical officers of health; and (5) that these officials should be sanitary experts, independent of the local authorities, and reporting from time to time to the Local Government Board. As to remuneration, the inspecting medical officers of health should be paid, by the Treasury alone, a salary which would enable them to forego private practice, in order to devote their whole time and talents to the discharge of their very responsible and very onerous duties. The district medical officers of health should be paid, in equal shares by the Treasury and by the local authorities, a suitable salary, not a nominal one, subject to a minimal but not to a maximal scale—i.e., a salary which should not be less than a fixed amount, say one-half their salary as dispensary medical officers.—On the motion of Dr. CAMERON, seconded by the REGISTRAR-GENERAL, thanks were voted to the President for his address.

Dr. E. MACDOWEL COSGRAVE read a paper on Sewer Gas and Disease. He pointed out that in spite of the Dublin-street sewers being well ventilated, it is certain that if imperfections exist in the house-drain, sewer gas will enter, as the outer air is generally denser than that in houses and as the updraught of fires causes a strong suction. At present many houses have rubble drains, which are always imperfect, and of the pipe-drains many are defective, and hardly any houses are properly disconnected from the street sewers, dependence being placed upon water-traps, which are untrustworthy as excluders of sewer gas. The remedy is to have a properly set pipe-drain cut off from the sewer by an intercepting trap, and ventilated by openings at each end at different levels, to cause a constant current of air. Occasional flushing with a sudden forcible rush of water will render such an arrangement almost perfect. Sewer gas seems to affect health in two ways: (1) As a direct poison, causing sore-throat, diarrhœa, &c.; and (2) by devitalising the oxygen of the air, and so leading to anæmia, lassitude, depression of spirits, &c. The symptoms often show first in servants who sleep in the basement. Surgical operations and confinements are specially liable to be followed by mischief if sewer gas can find entry. The Sanitary Protection Department of the Dublin Sanitary Association affords a reliable means of examining into house drainage, and the engineer to the department (Mr. W. Kaye Parry, M.A., C.E.) states that the following grave sanitary defects were found in some of the houses he examined:—Rubble drains under house, 26 per cent.; defective pipe drains, 61 per cent.; drains not intercepted from sewers, 65 per cent.; unventilated drains, 75 per cent.; waterclosets objectionable, 83 per cent.; soil-pipe leaking, 44 per cent.; scullery dangerously trapped, 50 per cent. In many cases disease accompanied the foregoing defects, especially enteric fever, diphtheria, and illness after confinements. Medical men ought, in the interests of preventive medicine, to have drains, &c., put right before outbreaks of illness, and not wait for illness to call their attention to defective drainage.—Dr. CAMERON gave several instances of defective drainage, and said in reference to exhalations from ventilators, experiments proved there was an influx of air into drains in the morning when fires were lighted.—Dr. GRIMSHAW, registrar-general, remarked that instances came under his notice of the defective line and falls in some of the public sewers in Dublin, and the consequent difficulty in obtaining sufficient falls in house drains in some localities. There was a case where the engineer of the Sanitary Association was unable to provide a complete and efficient system of house drainage in a particular place, because the level of the street sewer was not sufficiently below the level of the floor of the basement storey of the house. In this case it was impossible to put in an intercepting trap.—Surgeon-Major HAMILTON mentioned the steps he took for the ventilation of the barrack sewers of Dublin garrison.—Dr. Doyle, Dr. Henry Kennedy, and the Chairman having taken part in the discussion, Dr. Cosgrave replied, and the Sub-section adjourned.

Reviews and Notices of Books.

Conferences on Education: International Health Exhibition. Vols. XIII., XIV., XV., and XVI.; Sections A, B, C, and D.

THE main value of the educational section of the Health Exhibition consisted in the conferences between British and foreign educationists. Much interesting information was given, and some novel views and theories were discussed. It may appear strange, however, that there should have been such a dearth of medical opinion. We think only four members of the profession spoke at all, none of them frequently.

Although most of the speakers on female education appeared to understand the importance of due attention to the physical welfare of the scholars, some of the suggestions strike us as ill-considered—e.g., the Rev. Canon Holland, who spoke of the importance of ventilation of school-rooms by raised sash frames and Tobin's tubes, had apparently become oblivious of sanitary considerations when he went on to remark: "A glass house, just large enough to hold a piano and a chair, and erected in the corner of a class-room, makes it quite feasible to have two instruments in one room. In our Baker-street school we have two glass houses in one room, and three pianos, which are all played at the same time without any collision of sound." It would be interesting to know whether the air in this school has become scientific enough to pass through the glass houses which effectually keep out sound, or whether there is some

provision for ventilating these chambers from the outside, and if so of what nature, as from their small size—about 100 cubic feet, we gather from the description—they must require a peculiarly efficient apparatus for the purpose.

We could have wished for further information from Miss Freeman as to the exact duties and powers of the female physicians whom she says all the colleges for women in America employ, and who are "salaried to keep the students well." She significantly adds that they lose their appointments if they do not do so. Can these advanced institutions have taken a leaf out of the social customs book of the "Heathen Chinee"?

The German gymnastic system was referred to by Mr. J. Holm, F.R.C.S.E., as having been productive of great good in developing "manliness." He also remarked on Ling's system, which recognises the necessity of a knowledge of anatomy in the teacher of gymnastics in order that some muscles should not receive an undue development to the detriment of other parts of the body; but that all parts should be brought equally into play, and thus equal circulation, distribution of nerve power, and nutrition should be set up. The Royal Gymnastic Institute at Stockholm requires from persons desirous of obtaining appointments (to teach gymnastics) at public schools a course of study, including lectures on anatomy, physiology, pathology, and hygiene, together with instruction in the theory and practice of gymnastics, educational, military, and medical. Physicians by a modified course can obtain a diploma enabling them to practise medical gymnastics.

Many striking instances were given of the advance in intelligence of young children under the Kindergarten system, but we should scarcely desire one of our own children to exhibit such precocity as the little boy, aged five, whose mother wrote to Mr. Fitch that he "told a builder that his mother would not take his house, and on being asked why, he replied, 'You have not disconnected your drain-pipe.' He then explained that the drain-pipe ought to be cut off with an open gully underneath."

Notwithstanding many divergencies of opinion about minor matters, it is gratifying to note the substantial agreement of most of the speakers with the views expressed by the "Lancet Commission," published in 1875, which we believe paved the way for the many reforms in school hygiene which have been established since that time.

OUR LIBRARY TABLE.

St. Thomas's Hospital Reports. New Series. Edited by Dr. S. J. SHARKEY and Mr. FRANCIS MASON. Vol. XIII. London: J. and A. Churchill. 1885.—The contents of this volume are varied, and contain many original articles, of which the following must be noticed:—Vegetable Growths as Purifiers of Sewage, by A. W. Bennett, M.A.; A Case of Osteitis Deformans, by John R. Lunn; Two Cases of General Atrophy treated by the "Weir Mitchell" Method, by Seymour J. Sharkey, M.B.; Case of Gastro-Colic Fistula, by W. Edmunds, M.D., F.R.C.S.; Cases of Tubercular Meningitis, by J. S. Bristowe, M.D.; Mediastino-Pericarditis, by H. R. Hutton, M.B.; Four Cases of Symmetrical Development of Fat, by Sir William Mac Cormac; Cases of Ulcerative Endocarditis, by R. Percy Smith, M.D. The Medical Report for 1883 has been drawn up by Dr. Hadden, and the Surgical Report by W. H. Battle, F.R.C.S.

Lewis's Practical Series: Dental Surgery for General Practitioners and Students of Medicine. By ASHLEY W. BARRETT, M.B. Lond., M.R.C.S., L.D.S. London: H. K. Lewis. 1885.—A book of this kind has long been wanted, but it can scarcely be said that this one fully supplies the want. It seems chiefly to fail in its lack of illustrations. Though the description of operations is fairly good, yet Mr. Barrett too often forgets he is addressing medical practitioners, and writes as though his readers quite understood all about excavators, chisels, and the various instruments familiar to the dental surgeon. Perhaps in future editions this defect may be remedied, but even in its present form this book will be of distinct use to those for whom it is intended, as it contains in brief and readable form, though in rather long-winded sentences, much useful and practical instruction. Mr. Barrett's views on caries are crude, but his directions as to the treatment of it are very plain, though, as already intimated, they would be much helped by a few good illustrations. One sentence in the chapter on anæsthetics cannot be too highly commended; it reads: "The undesirability of employing any anæsthetic, be it 'gas,' ether, or chloroform, without the presence and assistance of a companion, who should be a qualified medical practitioner, needs hardly to be indicated." Of course this means in addition to the operator, be he surgeon or dentist.

The Ship Captain's Medical Guide. Compiled by the late HARRY LEACH, M.R.C.P., and revised by WILLIAM SPOONER, L.R.C.P., M.R.C.S. Ninth Edition. London: Simpkin, Marshall, & Co. 1885.—This edition has been revised throughout, and whilst the general plan of the work has been maintained, extensive additions and alterations have been made. The chapter on the Prevention of Disease has been entirely rewritten, an account of some diseases not previously mentioned has been inserted, and an endeavour made to bring the treatment up to the standard of the present day. The work, which is written solely for the use of masters and mates of vessels at sea, is confined strictly to a plain and brief description of accidents and diseases that occur on board ship; and much care has been taken to show, as clearly as possible, how these accidents and diseases can be best treated by a non-professional man.

Medical Reports of the Chinese Customs Service. Compiled and arranged by Surgeon-General C. A. GORDON, M.D. London: Baillière, Tindall, and Cox. 1884.—The publication of the medical reports, an epitome of which is contained in the laborious work which we now briefly notice, was first suggested by Dr. Jamieson of Shanghai. Surgeon-General Gordon has compiled a summary of the reports. A perusal of the list of contents of the volume before us is sufficient to show how varied and extensive the subjects treated by the medical officers connected with the Imperial Maritime Service of China have been. The information relating to the state of health of foreign residents at the several treaty ports is very valuable, and will be of service to those who contemplate proceeding to that vast country. The section of the volume dealing with materia medica is a valuable collection of information regarding the general use of medicines in China. The appendix contains a vast amount of information on many subjects, and notably on the prevalence of epidemics from the earliest times; a sort of medical diary dating back from B.C. 224 has been compiled at the cost of immense labour and patience, giving a chronological record of prevailing pestilences in China, as well as of epidemics and natural phenomena, such as earthquakes, inundations, and famines, in other parts of the world.

Seasonal Map.—We have received a copy of a seasonal climatic map of the United States, graphically illustrating combined humidity statistics with isotherms, wind statistics, and seasonal tables, compiled from data of the Signal Service Bureau by Charles Denison, A.M., M.D., Professor of Diseases of the Chest and of Climatology in the Medical Department of the University of Denver. Tables for computing the comparative dryness and moisture of localities are also given. By the colour shades in which the map is printed are represented even divisions of the climate of the United States, starting from the mean for the whole country, as determined by the combined humidity statistics. The map represents a marvellous amount of labour, and cannot fail to be of great

value to meteorologists as well as to officers engaged in sanitary administrative work in the United States.

Ellis's Irish Education Directory and Scholastic Guide for 1885. Dublin: E. Ponsonby. London: Simpkin, Marshall, and Co.—This book, which is now in the fourth year of its issue, contains full information as to the Irish universities and professional schools, and the institutions in Ireland for promoting intermediate, technical, and primary education, with complete alphabetical lists of Irish colleges and schools, and copious alphabetical and classified indexes. The part of the book relating to national education has been entirely remodelled, so as to make it a complete guide to the national system. It will prove useful to all who are in need of the information it is specially designed to afford.

WE have received the second volume of the *Dictionary of National Biography*, edited by LESLIE STEPHEN. It extends from Annesley to Baird, and from every point of view is fully equal to its predecessor, which we noticed favourably in a recent issue.

Analytical Records.

THE PURE WATER COMPANY.

IN spite of modern sanitary reform, the water-supply of country places, and even of many towns, is still so unsatisfactory that the production of aerated beverages absolutely above suspicion is a matter of some difficulty as well as of great importance. In the strictest sense of the term pure water is as yet unknown to us. Even Stas, who, after chemical treatment, rectified the water used in his celebrated stoichiometrical determinations, twelve times from a platinum still, did not attain perfection. But a visit to the works of the Pure Water Company at Battersea will convince anyone that practical purity can be attained with the appliances which modern chemical and engineering science have provided. In these works water is first distilled by the powerful apparatus invented by the late Dr. Normandy, and greatly improved of late. It is extensively used in ships, and is, we understand, doing good service in the present Egyptian campaign. Nine thousand gallons a day can be obtained from the engine in the works. We analysed a sample of this water, and obtained less than half a grain per gallon of solid matter, which, as every chemist will understand, is practically nothing. This extremely pure water has, however, like all distilled water, a peculiar smoky taste. To remove this taste it is passed through an animal charcoal filter. How the animal charcoal acts is not very clear. The filtered water proved on analysis to contain about four grains and a half per gallon of solid matter, chiefly phosphate of lime. It was free from the flat and smoky taste of the distilled water, and we need not say that, dietetically, it was perfectly pure. No other water is used in the works.

Carbonic acid is prepared by a continuous process in a very large pair of Mondollot generators, made by Mr. H. Favarger of London. In this apparatus, which possesses considerable advantages over all others, the sulphuric acid is introduced by a leaden syphon, which ensures regular action and avoids all waste. The gas passes through two washers, the second of which is a glass globe in which the transmission can be watched, the aeration being afterwards effected in the usual manner. Every care has been taken to avoid the possibility of mineral or other contamination, and it is certain that no purer or more trustworthy beverage could be produced.

Considerable variety is, of course, introduced into the articles sent into the market. First, we must notice Puralis, which may be described as filtered and aerated distilled table water. Then there are the usual soda and potash waters, each of which was found by analysis to contain the proper quantity of the alkaline carbonate. More novel are the aerated quinine water, which contains in each bottle a definite quantity of the soluble sulphate, and the ginger ale, ginger punch, and ginger gin. These last are excellent preparations, which will be valuable to the army of temperance advocates, inasmuch as they are not only pleasant in themselves, but they suggest alcoholic flavour without containing alcohol.

"THE METAPHYSICS OF NATURAL HISTORY."

To the Editor of THE LANCET.

SIR,—Accept my thanks for your comments in your last issue on my lately published lecture on the above subject. That lecture is there regarded almost exclusively as an endeavour to reconcile religion and science. That such may be its tendency, I earnestly desire. But to readers of your journal, and to students generally, there is a preliminary and more immediate question. How far are we entitled to declare that there must be a certain form of energy, directivity, or determinism existing in the field of nature, which can be so tracked, step by step, from the commonest physical changes, through elementary biologic provinces into the territories of reflex action, instinct and deliberate intelligent volition, that its unity of nature is beyond dispute? That however humbly or highly developed, or differently conditioned in its modes of expression, it may be, this energy of governance is one and the same? How far must the doctrine of correlated forces be modified so as to embrace what would now be called metaphysical causation? An influence, quite outside any will of its own, determines the sex of a child before its birth. At ten years old that same biologic influence is impressing modifications upon the characters of the child through its bodily constitution; it is a boy in mind and will, because it is a boy in body; at thirty years old intelligent volition has assumed predominance; but we know well enough how deeply all is still dependent on purely biologic antecedents. Here, then, is change simply biologic eventuating in intelligent will-force without a discoverable break. And more, the original life-movement may itself be traced backwards and found rooted in physico-chemical conversion of food; and in an upward direction we go on step by step to emotions, affections, and moral cerebration. This continuity may be inexplicable, but is it not certain? Again, in my tiny book I have dared, *rubesco referens*, to assume that there may be some truth in electro-biology, absurdly so-called, and in spiritualism, equally misnamed. Where more hopefully than among the mass of your readers may one seek for assistance on this point? Can any of them produce evidence that will-force can, or will, accomplish physical results? Your friendly criticism, and that of others, has shown that these views of the subject have been inadequately brought forward in the lecture. A page or two of appendix may somewhat remedy this in a new series now preparing by Messrs. Lewis.

I am, Sir, yours obediently,

March, 1885. STEPHEN MONCKTON.

ROYAL INSTITUTION.—The following are the lecture arrangements after Easter:—Professor Gamgee: Eight lectures on Digestion and Nutrition, on Tuesdays, April 14th to June 2nd. Professor Tyndall: Five lectures on Natural Forces and Energies, on Thursdays, April 16th to May 14th. Professor Meymott Tidy: Three lectures on Poisons in relation to their Chemical Constitution and to Vital Functions, on Thursdays, May 21st, 28th, and June 4th. Mr. W. Carruthers: Four lectures on Fir Trees and their Allies in the Present and in the Past, on Saturdays, April 18th to May 9th. Professor Odling: Two lectures on Organic Septics and Antiseptics, on Saturdays, May 16th and 23rd. Rev. C. Taylor: Two lectures on a lately discovered Document, possibly of the First Century, entitled "The Teaching of the Twelve Apostles," with illustrations from the Talmud. The Friday evening meetings will be resumed on April 17th, when Professor S. P. Langley, of the Alleghany Observatory, Pennsylvania, will give a discourse on Sunlight and the Earth's Atmosphere.

THE LANCET.

LONDON: SATURDAY, APRIL 4, 1885.

THE action which has been taken by the vestry of St. Pancras, and which has led to the resignation of Mr. SHIRLEY MURPHY, brings into special prominence the unsatisfactory position in which medical officers of health are placed with regard to the sanitary authorities whom they serve. It is a fact too well known to require any further proof that in a great many instances sanitary authorities intimate to medical officers of health, either directly or indirectly, that the less they do towards the improvement of their districts, the more secure will be the posts and the emoluments they hold. And, on the other hand, the officer of health who honestly performs his duty, and makes it his first consideration to deal with all matters affecting the health of the public, quite irrespective of the private interests which are involved, often finds that his position is made so disagreeable that he is bound to resign it; or else, when the time of re-election arrives, he is thrown over and a new officer takes his place. Nothing could be more unsatisfactory than such a condition of affairs, and the time has come when all who are interested in the future sanitary welfare of the country should make it known in an unmistakable way that a change is necessary in the direction of placing the medical officer of health on a more secure footing.

When the appointment of medical officers of health became compulsory throughout the country, the Local Government Board issued certain regulations with regard to such of them as held office under their Orders; and it is quite clear, from the wording of the clauses relating to the tenure of office, that the intention of the central authority was that after a certain period of probation the election should be permanent, unless removal from office was sanctioned by the Local Government Board on the application of the authority. Indeed, the only limit to the length of appointment had reference to the first election, which was to be for a period not exceeding five years. But even as regards appointments which are made under the Board's Order, the number in which permanency has been sanctioned is very small; and, as a matter of habit, even those sanitary authorities who desire to make permanent appointments are not allowed to do so. As to those districts in which the authorities do not claim any repayment of the officer's salary from the Parliamentary grant, no guarantee whatever is required as to tenure of office, and officers of health may be appointed and dismissed as often as the authorities choose. The metropolis, owing to its exceptional legislation, is on the same footing, and any officer can be got rid of, either directly or by persecution, as soon as the authority finds that in the proper performance of his duties he is touching individual interests.

For the purposes of the Poor-law Medical Service, it was found necessary to give to the medical practitioners holding office in that service some security that they should not be dismissed without adequate reason; and though it may be that this provision has not always worked satisfactorily, yet it has enabled many officers to perform their duties fearlessly, and with the conviction that there was at least some court to which there was appeal. In the interests of public health, it is necessary that medical officers of health should be placed on a footing, to say the least, not inferior to that of Poor-law medical officers; and strong representations should be made to the Government and to individual members of Parliament with a view of securing some such end. The loss to a sanitary district of a medical officer of health who is fully acquainted with its various needs, who has shown his ability to indicate those needs and to secure their remedy, and who is sacrificed because of his very efficiency, is well-nigh irreparable; for even if his successor be as competent as he, much time must elapse before an in-coming officer can have acquired the local information necessary to the proper performance of his duties. In Mr. SHIRLEY MURPHY'S resignation St. Pancras is the principal sufferer; and the mere fact that certain members of the vestry have been allowed so to behave towards that gentleman as to compel his resignation will, it is certain, most seriously affect the future sanitary status of any man who cares hereafter to take upon himself the duties of medical officer of health in that parish. The Parliamentary Secretary to the Local Government Board has borne testimony in the House of Commons to Mr. SHIRLEY MURPHY'S conscientious and capable performance of duty; the Mansion House Council on the Dwellings of the People have publicly protested against the treatment he has received; and it is to be hoped that the publicity which has been given to this case, one out of many similar instances, will in the end lead to a change in the relations of medical officers of health to the local authorities, both in the metropolis and elsewhere. If this result be attained, those who have suffered will not have done so in vain.

THE debate on Cholera was resumed at the Royal Medical and Chirurgical Society last Tuesday, and brought to a conclusion, although an attempt was made to have it further adjourned, in order, as one speaker stated, to secure opportunity for Dr. KLEIN to reply. The rules of debate do not, however, admit of a reply except to the opener, and in the opinion of the majority the subject has for the present been sufficiently discussed. Dr. HENEAGE GIBBES denied categorically the interpretation placed by Mr. WATSON CHEYNE upon KOCH'S statement that the ileum in acute cases contains comma bacilli in pure culture; for, according to Dr. GIBBES, the small straight bacilli which he finds to predominate in such cases are specifically distinct from the curved microbe. Neither could he confirm the statement that the number of comma bacilli was in proportion to the severity of the case. Dr. HERON, who spoke later in the evening, reverted to the bacillar question, and maintained that no difference of opinion had been elicited as to the fact that KOCH'S bacillus had occurred in any other disease but Asiatic cholera; although, as Dr. THIN remarked, an impression had been conveyed that Dr. KLEIN still maintains the contrary. Dr. THEODORE ACLAND asked for information on this point, but, as Dr. GIBBES had left the room and Dr. KLEIN

was not present, no reply was forthcoming. But, assuming the truth of his interpretation, Dr. HERON pointed out the great importance of this fact as a means of diagnosis between Asiatic cholera and allied diseases, following in this the opinion long since expressed by KOCH, at whose instigation so many sanitary officers and others have been instructed at Berlin in the methods of discriminating the choleraic microbe. Sir GUYER HUNTER took occasion to reiterate his conclusion that in the Egypt epidemic the disease was not imported from India, nor did he believe that the Toulon outbreak was imported. In fact, he declared stoutly in favour of the non-contagionist doctrine, which Dr. CUNINGHAM has so persistently upheld. Yet, in the face of such facts as those furnished by Mr. MACNAMARA in his able speech, and those included in the trenchant criticism lately bestowed on Dr. CUNINGHAM'S own reports by the writer of a pamphlet entitled "On the Communicability of Cholera by Human Intercourse"—an author who is in a position to speak with authority,—it does seem astonishing that the non-contagionist doctrine should still receive so much support. Surely there is abundant evidence for regarding cholera as on the same etiological footing as typhoid fever. Mr. MACNAMARA appears in practice to have found that the most appropriate treatment is just that which KOCH finds obnoxious to the bacillus, and is therefore all the more inclined to accept the interpretation of KOCH in its most extended significance. Other speakers were less assured that the bacillus stands in causal relation to the disease. Dr. PYE-SMITH contributed some weighty remarks upon the nature of the choleraic discharge, which, from experiments made in conjunction with Dr. BRUNTON, he believes to be due to an outpouring of intestinal secretion by paralysis of mesenteric nerves in connexion with ganglia derived from the solar plexus. As might have been expected, much was said about treatment; and Dr. JOHNSON'S advocacy of elimination by means of mild purgation was attacked by many, including Sir GUYER HUNTER, Dr. JOHN MURRAY, Mr. MACNAMARA, and Dr. SCRIVEN; although the latter declared that he had found calomel most useful in the early stages. Other statements of Dr. JOHNSON were combated; but he defended his position with vigour in the short time left to him at the close of the protracted meeting.

DR. GEORGE PEABODY, Physician and Pathologist of the New York Hospital, read a paper to the Practitioners' Society on the 6th of March on toxic enteritis caused by corrosive sublimate as a surgical and obstetric application. He adduces from the records of the New York Hospital accounts of eleven cases in which the use of the perchloride as an antiseptic dressing or application was followed by obstinate diarrhœa, which did not yield to the usual remedies, which sometimes ceased on the drug being discontinued, but which in seven instances was followed by frequent bloody discharges, griping, tenesmus, prostration, and death. He was led to search out the facts by reading an article by Dr. EUGEN FRAENKEL in the February number of VIRCHOW'S *Archiv*, whose attention had been drawn to the subject by reading a short communication in the *Centralblatt f. Gynäkologie* by STADFELT of Copenhagen, in which is reported a fatal case of poisoning in a woman who was treated, after retained placenta had been removed with the hand, by the washing out of the uterus with a solution of corrosive sublimate of the strength of 1 in 1500. Four hundred cubic centimetres of this solution had been injected into the uterus, when sudden collapse occurred, from which she rallied. On the evening of the same day she had diarrhœa and tenesmus, and later, bloody stools, which continued until her death, ten days after. The autopsy showed numerous ulcers of an irregular or circular shape in the large intestine. The mucous membrane generally was congested and the ulcers frequent in the rectum. These appearances of the intestine corresponded closely with what was noticed by Dr. PEABODY in several of the autopsies he made of surgical cases where the bichloride had been used, as for irrigating abscess cavities, irrigating wound after amputation of the breast, irrigating a suprahydatid cyst; wiping the peritoneum after laparotomy for fibro-myomata with sponges wet with bichloride solution, 1 to 2000 parts. FRAENKEL says he has made autopsies of fourteen cases treated by SCHEDE with bichloride during the last two years and a half, in which toxic enteritis was produced by it. Of these fourteen cases, two, he thinks, were killed by the poison directly. In the others the drug did not seem wholly responsible for the fatal issue. Salivation is exceptional in these cases. Inflammation is always present in the large intestine, but only exceptionally in the smaller. In the large intestine FRAENKEL found very extensive superficial ulcerations, sometimes covered with loose masses of epithelium and sometimes by a torn diphtheritic membrane. The lesions of pyæmia in other organs are uniformly absent. Dr. PEABODY refers to a publication by SCHEDE of Hamburg on this subject in *Volkmann's Sammlung Klin. Vorträge*, No. 251, and also to one in the same work, No. 250, by W. THORN, assistant at the Female Clinic in Halle, which is an urgent plea for the total abolition of the corrosive from midwifery and gynæcology, alleging its great inferiority to carbolic acid, and the dangers attending its use. We think it incumbent upon us to give publicity to these publications, as we have lately recorded with much satisfaction the remarkable absence of mortality in the General Lying-in Hospital of York-road, Lambeth, where the patients are douched with solutions of the bichloride twice a day. These, of course, are only vaginal douches. We have been informed that there was, except possibly in one case, an entire absence of any indication of the constitutional action of the poison. It is clear, however, from surgical experience that this solution will have to be used very cautiously, and not less so in obstetric practice. We should be disposed to say that its intra-uterine use is not warranted. There is a growing disposition, except in extreme cases, to trust to vaginal cleansings.

THE Government Lunacy Bill is not yet printed, so that it is not possible for us to discuss its provisions in detail. So far as we can judge from the statement made by the Lord Chancellor when introducing it, the measure would seem to be one of those well meant but feeble endeavours to do right which reflect more credit on the hearts than on the heads of their projectors. Of course, it may be that in this instance the head has had more to do with the matter than the heart, and that, in point of fact, it is a concession, with ingenious reservations, made to the urgent cry for reform. We do not attempt to determine in which light the new

Lunacy Bill is to be regarded. One thing, however, is certain; an attempt must be made to improve it by amendments. In some respects this should be easy. For example, the provision by which a person consigned to an asylum is to be visited by a delegate of the Commission within a *month* (!) of his admission must obviously be so modified that the official visit shall be paid within a week as the utmost limit. If the examination and report thus made are to be of any value they must be completed at the earliest practicable date. Imprisonment of a weak-minded though not insane person for a month in an asylum would more than suffice to drive him into madness. Even three or four days of wrongful incarceration would do the utmost mischief in a great majority of instances. If the official representing the Commission, and therefore *supposed* to be impartial, does not visit within one week, it is needless to trouble to send him at all; the alleged lunatic will be quite mad before he comes! We do not complain that the Government has hesitated to abolish the private asylum system altogether with one sweep of the pen; but the Bill, as represented, trusts largely and implicitly to the energy of local reformers for its efficiency, and everything will depend on the way its provisions are carried into effect. We suspend our judgment on the details of the measure until we see it in print.

WE drew attention in our issue of March 7th last to the proceedings of the Metropolitan Asylums Board in connexion with the excessive expenditure at the Homerton Fever Hospital, and especially to the resolution which was passed by that Board to the effect that the result of the inquiry of the subcommittee showed the unfitness of the present medical superintendent for the office he holds. Dr. COLLIE has raised a protest against this resolution, and he naturally expresses surprise that it should have been passed without his having an opportunity of offering to the Board of Managers the explanations which he now tenders. The charges which, in the opinion of the managers, have reference to Dr. COLLIE arrange themselves under four heads. In the first place the general expenditure of the establishment is regarded as excessive. As to this Dr. COLLIE shows clearly that, except in so far as he has advised the carrying out of certain important and necessary improvements, such as alterations in the system of drainage, he is in no way responsible for such expenditure. The general expenditure, he declares, is controlled and directed solely by the hospital committee; and, except on rare occasions, when some special medical questions arise, the estimates are dealt with without so much as his being consulted. Another and a very important charge relates to the amount of stimulants given to patients. On no subject has there probably been a greater divergence of opinion in medical circles than on this question of the administration of alcohol in the case of the acute specific fevers, and therefore the mere citing of the amounts of wine, &c., administered per patient at different hospitals is altogether beside the mark when the point under consideration is the fitness of this or that practitioner efficiently to supervise a large fever hospital. The matter is one for medical judgment, and we are bound to say that Dr. COLLIE who has often expressed his views upon what has by some been regarded as his lavish use of alcohol, bases his practice upon what he rightly believes to be the only proper ground—namely, the welfare of the patient. Indeed, in support of his method of treatment he gives the mortality per cent. of admissions during the last twelve years in the Stockwell Fever Hospital, in the London Fever Hospital, and in the Homerton Hospital, and the result is that on a total of patients varying from 1797 in one to 3604 in another of the hospitals, the death-rates have been at Stockwell 21·54, in the London Fever Hospital 16·14, and at Homerton 15·15 per cent.

We are not now, however, concerning ourselves in any way with the question whether Dr. COLLIE'S method of treatment is right, or whether sources of error may not have to be eliminated before the figures he quotes can be accepted as proving all he alleges. The point is that he honestly believes he saves life by his alcoholic treatment, and that he is able to quote statistics which he holds are in favour of his confirmed opinion. So long as this is the case it is only right that his medical judgment should be unhindered, and it is clear that on this, as also on the first head, he entirely absolves himself from the charge brought against him. A third point relates to the supply of stimulants to the staff. Some of this has been granted without any order from Dr. COLLIE, and some of it he has "years ago" declined to hold himself responsible for. There has also been some exceptional use of beer on account of the works of drainage which have been carried out. It was naturally desired to keep the men working in an infectious hospital from the neighbouring public-houses, and hence beer, as also lemonade, were provided for them. But even here Dr. COLLIE declares that he never ordered an ounce of the beverages, neither was he concerned with the quantities issued. The remaining item under this heading Dr. COLLIE regards as one coming properly within his jurisdiction. It has relation solely to the sick members of the staff, and, having regard to the heavy nature of the duties they had been called upon to perform, Dr. COLLIE declares that under similar circumstances it would be his duty to act in the same way again. Here again the matter is one essentially for the judgment of the responsible medical head. The last charge is of a different character. Excessive amounts of Beaune wine were delivered to a certain ward early in July last year. Dr. COLLIE admits that it was his duty to have checked this, and that he is properly to be held responsible for what was unquestionably a grave irregularity. But he submits that at the time in question he was engaged on many other matters for the board of managers, that the diet sheet was made up by the superintendent nurse owing to the illness of one of the medical officers, and that he is in consequence unable to offer any satisfactory explanation of the circumstance. Clearly Dr. COLLIE has erred here. But surely the past history of his services should afford ample proof that the matter is one of error alone. For a long time past the expenditure of Homerton Hospital has at intervals been considered, the cost of the establishment has been submitted to the managers fortnight by fortnight, and never during the past fourteen years has Dr. COLLIE received a hint, a caution, or a warning that his medical administration was too costly. During his long service he has received numerous proofs of the confidence of the managers in his ability as an administrator. Apart from his general work, he has been called upon to prepare land and floating hospitals against epidemics

of small-pox, special recognition of his exceptional services has been made to him, and he has all along been regarded as one of the highest authorities on the subject which he has made his particular study. Should Dr. COLLIE feel that, in the present attitude of the Managers, he can no longer hold his present post, the metropolis would lose the services of one of the most able physicians who ever set himself to cope with the control of epidemic disease by isolation; and we cannot but express a confident hope that his explanation will be accepted as sufficient, and that he will continue to hold the post for which he is so exceptionally well fitted. A Local Government Board inquiry has been ordered as regards the whole subject, and this will probably clear up all doubt as to where the fault lies.

Annotations.

"Ne quid nimis."

ROYAL COLLEGE OF PHYSICIANS.

THE Comitia on the 30th ult. was very largely attended, Sir W. Jenner presiding. The Certificate of Hygiene was awarded to Messrs. Charles Bullock, Charles W. Low, William F. Taylor, and Francis J. Tuohy, this being the first occasion of the newly established examination. A communication was read from the Treasury undertaking to comply with the request of the College to distribute free of cost amongst the medical practitioners of the United Kingdom copies of the revised "Nomenclature of Disease." A vote of thanks to the Treasury for its courtesy and liberality was proposed by Sir Risdon Bennett, seconded by the Senior Censor, Dr. Ogle, and unanimously carried. The President intimated that at the next meeting he should propose that an honorarium be voted to Dr. Ord, the Secretary of the Nomenclature Committee, for his invaluable services. The scale of payment of examiners was submitted and approved. Dr. George Johnson drew attention to the proposed publication in facsimile of the MS. notes of Harvey in the British Museum, and a committee consisting of Drs. Johnson, Sieveking, Stone, Payne, and N. Moore was appointed to report thereon to the College. Sir W. Jenner then delivered an address, in which he reviewed the various subjects that had occurred in connexion with the College during the past year. Amongst these he referred to the Medical Bill, and its withdrawal owing to the determined opposition of the Scotch universities, and stated that the measure had received the support of the College, which was more mindful of the interests of the profession and the public than of its own corporate interest. Since the Bill had not become law, the College had, in conjunction with the College of Surgeons, formed an Examining Board, which had received the sanction of the Medical Council. Objection had been taken to the fees charged for these examinations; but until the scheme was well established, it would not be possible to lower them. The question of a London medical degree was one which might well be entertained in connexion with the new board, and he thought the College might institute an inquiry into the best means for obtaining the power to grant degrees. Many other topics were dealt with, and the address concluded with a review of the careers of those Fellows who had died during the past year—an eloquent tribute, characterised by much discrimination and high-toned feeling. A cordial vote of thanks for his address was passed to Sir William Jenner, who was then re-elected President by a large majority, a certain number of votes being also recorded for Sir W. Gull, Sir H. Pitman, Dr. Owen Rees, Sir A. Clark, Dr. Quain, Dr. Wilks, and Sir Joseph Fayrer.

ENGLISH VITAL STATISTICS IN 1884.

THE Registrar-General's Abstract of Marriages, Births, and Deaths, registered in England and Wales during 1884, has just been issued as a Parliamentary Return. The marriages were fewer than those recorded either in 1882 or 1883, and were equal to a rate of 15·1 persons married per 1000 of the estimated population. This marriage-rate was as low as that in 1881, and very slightly above the low rates in 1879 and 1880, when the present depression in the marriage-rate was most marked. In sympathy with the long continued depression of the marriage-rate, the birth-rate is also much depressed, and did not exceed 33·5 per 1000 last year and showed but a slight recovery from the exceptionally low rate in 1883; it was 1·4 below the mean rate in the ten years 1874-83. The deaths registered last year were equal to a rate of 19·6 per 1000, and was almost identical with the rates in the preceding two years, 1882 and 1883, which were 19·6 and 19·5. The mean annual death-rate in the first four years of the current decennium was but 19·4 per 1000, and was no less than 2·0 below the mean rate in the ten years 1871-80, in the latter half of which period a considerable decline in the national death-rate had already set in. The marked decline in the death-rate of the last four years signifies that nearly 213,000 persons in England and Wales survived those four years whose deaths would have been recorded had the death-rate equalled the mean rate that prevailed during the preceding ten years. The natural increase of the population of England and Wales last year by excess of births over deaths was 376,623, and was higher than in any previous year on record, except 1881, when the death-rate was unprecedentedly low. On the other hand, 150,652 English emigrants left the United Kingdom during the year (fewer by 19 per cent. than those in the previous year), whereas the number of immigrants and of returned emigrants is unknown. The net increase to the population of the country cannot therefore be ascertained. From a health point of view the vital statistics of 1884 were eminently satisfactory, and the continued depression in the low marriage-rate, viewed as the reflex of the commercial depression, was to some extent counterbalanced by the decline both of emigration and of pauperism.

ALLEGED DEATH FROM VACCINATION.

ON Saturday, March 28th, Dr. Danford Thomas, the coroner for Central Middlesex, held an inquiry into the cause of death of a child named Walker, aged three months. From the evidence it appears that deceased was vaccinated by Mr. Claremont, public vaccinator to the St. Pancras district, on March 5th. At that time it seemed quite healthy. On the 12th—the day being very cold—it was taken for inspection. Two days afterwards the mother called in Mr. Whitefoord of Albany-street, and that gentleman diagnosed "congestion of the lungs and brain." Death took place from convulsions on the 22nd ult. Mr. Whitefoord signed a certificate to the effect that the fatal issue was due to vaccination, blood poisoning, and convulsions. Upon the information laid before him the coroner very wisely determined to hold an inquest. The post-mortem examination was performed by Mr. Pepper, in the presence of the gentleman named above, Mr. Sweeting of the Local Government Board, and other members of the profession. The vaccination marks were perfectly normal, there being not the least trace of ulceration beyond the adherent scabs. The surrounding areolar tissue and the axillary lymphatics showed no trace of suppuration. The internal organs, with the exception of the lungs and brain, were free from disease. There was no sign of acute fatty softening or other result of septic intoxication or infection, no thrombosis or hæmorrhagic infarction. There was no effusion into the joints. The lungs showed

acute capillary bronchitis, and patches of collapse consequent on the obstruction to the passage of air from the blocking of the tubes. There was no pneumonic consolidation. The pia mater was infiltrated with puro-lymph; the middle ear was healthy; no evidence of tuberculosis was discovered in any part of the body. On being questioned by the coroner and jury, Mr. Pepper stated that in his opinion vaccination had no other part in causing the death than that for the time being it somewhat depressed the vital powers, and so rendered the tissues more vulnerable; and, further, that the capillary bronchitis and pia-meningitis were in all probability directly due to exposure to cold. With regard to the latter lesion, he deposed that inflammation of the cerebral meninges was not uncommon in young children apart from vaccination or any other discoverable source of local irritation. Mr. Sweeting testified to his having examined the vaccinifer—a perfectly healthy child exhibited in court,—its vaccinifer, and about thirty other children vaccinated from them, and that in only one case had the arm assumed unhealthy action, and that as the result of an attack of measles contracted four days after vaccination. By Mr. Whitefoord's certificate, it would seem that he intended to convey that vaccination had in some way led to septic poisoning, and so to the death of the deceased; but when submitted to interrogation, Mr. Whitefoord had no hesitation in saying that by "blood poisoning" he meant only the ordinary effects of arm-to-arm vaccination, which he considered an undesirable method of procedure. To our minds the public and the profession generally would be led to draw a very different conclusion from the terms of that certificate, and the jury by their verdict recorded their sense of disapproval of Mr. Whitefoord's nomenclature when they found his certificate "misleading and incorrect." We do not think that Mr. Whitefoord can claim to represent the opinion of his professional brethren in considering that the "congestion of the lungs" was due to blood poisoning, and not to exposure to cold, on the grounds that the appetite of the patient was not completely lost, and that there was no difficulty in breathing. The latter statement of fact, however, was directly traversed by the mother of deceased, for she avowed that one reason why she sought medical advice was on account of the difficulty of breathing which Mr. Whitefoord failed to recognise. As regards arm-to-arm vaccination, it is only necessary to add that the Local Government Board have issued instructions that it is preferable to vaccination by ivory points. The wisdom of such instruction seems plain enough. The virus when exposed has a chance of undergoing decomposition, which, although it may attenuate the specific principle, opens up the possibility of introduction of septic matter. Besides, it has been proved by experiment that it is impossible to remove the whole of the virus from the points, as some of it passes into the pores of the ivory. We cannot help expressing our conviction that Mr. Whitefoord should have more carefully weighed the probabilities as to the construction likely to be placed on the wording of his certificate. The cause of vaccination has enough to contend against without its opponents being furnished with phraseology which does not convey a complete representation of facts, and, as in this case it seems, not even a correct statement of opinion.

ATHETOSIS BEFORE AND AFTER HEMIPLEGIA.

THE relations of convulsion to paralysis form one of the most interesting chapters in the pathology of the nervous system. The popular mind sees a wonderful contrast between convulsion and paralysis, and with good reason. Yet there are many considerations which tend to diminish the contrast. The causes which give rise to involuntary movements need only to be intensified in order that paralysis may result. A moderate defect in the nutrition of nervous tissues subserving motor functions may be outwardly expressed as epilepsy, chorea, or some other form of involuntary movement; whilst a more marked defect in the nutrition would be followed by paralysis. It is true that in many instances genuine irritation calls forth some form of tonic or clonic spasm, which may end in paralysis from exhaustion consequent on the excessive irritation. Perhaps the majority of cases of Jacksonian epilepsy which are followed by paresis may be thus explained, though it is highly probable that a condition equivalent to irritation may be set up as the result of a mere loss of nutrition. Paralysis which is not caused too rapidly is generally preceded by some form of spontaneous movement. At a recent meeting of the Société de Médecine et de Chirurgie of Bordeaux, M. Durand related the case of a man aged sixty-nine who was one day seized with severe epistaxis. The next day a tremor exactly similar to that seen in cases of post-hemiplegic athetosis was observed in the left arm and leg; at least so states the report from which we gather this account. There was no loss of consciousness. A day later the convulsions were replaced by hemiplegia. On the following day the movements had returned, and hemianæsthesia was detected in the convulsed members. The further history of the case was not related, and the description given of the movements is inadequate for a proper recognition of their nature; nevertheless the case is an interesting one.

THE MORTALITY OF PIT VILLAGES.

THE report of Dr. Brown, the medical officer of health of the Winlaton Rural District and of the Blaydon and Pyton Union Districts, has been kindly forwarded to us. It should be widely circulated in the district of Newcastle, as throwing much light on the causes of death that obtain still in villages and small communities in the very heart of the district which is associated with all that is effective in engineering and mechanics. If a little of the genius that has been so lavishly spent on the means of locomotion could only be spared for increasing the means of life, or rather abating the causes of death, what great results would accrue. How much healthier the children would be, and how much happier the parents. Life itself would be ever so much more worth living if the diseases by which it is blighted and impoverished from infancy upwards could be curtailed or abolished. If untainted water could be supplied and the house space increased, infantile diarrhœa and typhoid would largely disappear, and the insidiously introduced infection might have some chance of isolation. If the Blaydon Sanitary Authority is disposed to effect these beneficent changes, it need do no more than read Dr. Brown's report and act upon its suggestions. The significance of much of the disease of which he speaks is unmistakable. Twenty-one deaths in a population of 11,800 from summer diarrhœa; 45 deaths, *in the third quarter of the year*, under five years of age, in a total of 77 deaths; 14 deaths from enteric fever at Blackhall Mill; 68 victims to lung disease, being nearly one-fourth of the whole number of deaths, and 60 deaths of infants: from thrush, 8; tabes, 10; meningitis, 12; convulsions, 18; and premature birth, 12—convey to the medical mind conditions of existence which not only kill, but which debilitate and impoverish those who survive. The mortality of the whole district is that of a crowded city rather than that of rural villages. We will not here reproduce Dr. Brown's account of the water-supply and its intimate relation with wells and ashpits and privies. His language is not that of a sensational alarmist, but of an earnest and kindly physician; and we cannot but hope that it will have the attention of his sanitary authority; and let us hope, also, of beneficent ladies of the district, who, with

a little pains, might diffuse among the people intelligent ideas of food, fresh air, housekeeping, &c., pending the arrival of that period described by Dr. Brown when the School Board authorities will think it a fundamental part of their duty to instil into the juvenile minds under their care elementary ideas of health and its conditions.

SUCCESSFUL NEPHRECTOMY AND NEPHROTOMY.

A MAN, aged twenty-seven, has just left the Queen's Hospital, Birmingham, in capital health after removal of his greatly enlarged right kidney by Mr. Jordan Lloyd. The patient had suffered periodically from attacks of right nephralgia for nineteen years, and several experienced practitioners had diagnosed renal calculus. On Nov. 18th, 1884, the kidney was exposed through the loin, its substance incised, and its cavity explored with the finger. The kidney was found enlarged, dilated, and pouched, but without stone. Twelve days later the patient had an attack of nephralgia, followed by a kind of pyæmia. The wound at this time had nearly healed. The general health had so far improved that on Feb. 8th Mr. Jordan Lloyd excised the kidney, through a wound made in the old cicatrix. The gland proved to be greatly enlarged, but its substance was thinned and dilated, without stone. The kidney measured eight inches in length, and the pelvis twelve inches in circumference. The patient rallied quickly, made a rapid recovery, and was discharged on March 19th, with a small discharging sinus in his loin, but otherwise, to all appearance, in perfect health. *La Gazzetta degli Ospitali* reports that on March 8th Professor Vincenzo Daffilo performed nephrotomy at the Ospedale degli Incurabili at Naples for suppurative nephrosis. The walls of the cyst, about three-quarters of an inch in thickness, were closely adherent to the lumbar muscles, the peritoneum, and the diaphragm. The edges of the wound in the skin and cyst were united by points of interrupted suture. The cyst, which had previously been evacuated eight times with Potin's aspirator (yielding a pint and three-quarters of purulent liquid each time), was again emptied in the same way on March 8th. The free extremity of the twelfth rib was resected at the same time. The operation was completed under ether in forty minutes, with the strictest Listerian antiseptic precautions. The temperature has not exceeded 38° C., and the patient is making excellent progress towards recovery.

MALE NURSES FOR MEN.

THERE is some reason in a suggestion which has lately come under our notice, that greater facilities than exist at present should be afforded to steady and intelligent men who are willing to devote themselves to nursing the sick of their own sex. That some such nurses are to be found is not denied. Among others, we may mention the male attendants on lunatic patients—men skilled in the management of a special and very trying form of disease; then there are the "watchers," who belong to the Jewish community, and combine the office of a nurse with certain religious functions. Still, the suggestion we have referred to indicates a want in our system of treatment. It would be easy to enumerate cases in which the services of men would be preferable to those of women in a sick room. In old age, for example, when prostatic and vesical troubles are apt to show themselves in men, or at any age for the after-care of operations in the same region, one may, without excessive refinement of feeling, choose that the necessary manipulations should be performed by the male hand when that has by training become endowed with feminine tenderness. It must, of course, be admitted that true delicacy of feeling is quite compatible with every necessary work, and particularly with one so humane as that of attendance on illness; but there seems no reason why an invalid should not be able to satisfy his own wish in the matter. Another and more pressing argument in favour of male nursing is founded on the greater physical strength and endurance of men as compared with women. Many non-professional persons have witnessed the real advantage conferred by muscular strength—in dealing, for example, with paralysed patients. To lift a heavy man bodily is no trifling task even for the strong. In some cases it is frequently necessary; and it seems somewhat unfair to expect that women of exceptional strength should always be available for such an emergency, or that the aid of another woman or a male relative of the invalid should be conveniently near to make up any deficiency, when many men, if trained, could satisfy every requirement single-handed. Some of the general hospitals would, therefore, we think, do well to assist the formation of a nursing staff of men by using for this purpose the means of teaching which their wards so amply afford. Recent experience has proved that if the course of education could be made to include ambulance work, a reserve force of assistants might be formed whose services would be of great value to the military authorities in case of war.

HORSEFLESH AS FOOD IN MANCHESTER.

THE question as to how far the consumption of the flesh of diseased animals may be carried without injury is one which cannot yet be answered with exactness. Probably it never will be. It is obvious notwithstanding that such meat can never be relied upon to furnish the same nutriment as that of a sound and well-fed animal; and again, that so long as the muscular tissues are traversed by the same organic fluids as the seats of disease, especially if the latter be contagious, they cannot be eaten without risk. A partial security is afforded no doubt by bleeding the carcase efficiently, by using as food only the muscular tissues, and by thorough cooking. None of these, however, can do more than mitigate the probable ill-effects of such haphazard feeding, and the danger thus incurred is proportionately enhanced by the fact that many of the poor upon whom such fare is apt to be foisted content themselves with eating the liver and other viscera, which are particularly apt to suffer from infectious processes within the body. These considerations will help us to understand what is, or at least may be, implied in a statement recently published that horseflesh is being sold in large quantities to the poorer inhabitants of Manchester, under the name of beefsteak, and, further, that many of the slaughtered horses were believed to be diseased. The Local Government Board have properly taken the matter in hand, and will, we hope, succeed in excluding from the market of a prosperous English city a form of food which even in its healthy state is not looked upon with favour as a staple of our national produce.

ALBUMINURIA IN CATS.

THERE frequently exists in the kidney of the cat an enormous accumulation of fat in the cells of the parenchyma. The question has been debated whether this fatty degeneration is pathological or physiological. M. Mathis believes the condition to be abnormal, though of frequent occurrence in cats. The disease is of a different order from that of ordinary Bright's disease; it is not the result of an inflammation, but is due to excessive storing up of the fat—a function which appears to be normal for the kidney of the cat, just as the subcutaneous and subperitoneal tissues are the usual magazines for the storage of fat in other animals. Excessive accumulation in the kidney leads to interference with the function of secreting or excreting urea, and it diminishes the power of taking up the albumen thrown out from the blood in Bowman's capsule. The result appears to be the same as in ordinary Bright's disease, "if we except," says M. Mathis,

"the disorders due to increased blood-pressure." A want of docility, with capricious temper, is believed to be the chief clinical symptoms of the disease in cats, and, according to our author, albuminuria is always found under these circumstances. An account of this steatosis of the kidney may be read in the *Lyon Médical* of March 15th.

THE ROYAL NATIONAL HOSPITAL FOR CONSUMPTION, VENTNOR.

THE Sixteenth Annual Report of this Hospital shows that it is what its name implies, a National one. Of the 6163 patients who have been received into the hospital, about half have come from London and Middlesex. The other half have come from nearly all the counties of England, from Wales, from Ireland Scotland, and the Channel Islands. During the last year no less than 608 patients have been under treatment. But new blocks of buildings, chiefly at the expense of an anonymous friend, are to be opened in the present year, and another block of buildings, to commemorate the generosity of the late Mr. John Jones, is in course of erection. In view of the great importance of the work of the hospital and its imminent extension, it is highly important that the staff of local physicians should be increased. We made this suggestion in a former year, and we make it still more urgently now. It cannot be better carried out than by appointing Dr. Whitehead and Dr. James M. Williamson, who are already Honorary Surgeons, to Physicianships. It is no secret that Dr. Williamson has applied to the board of management to be transferred from the surgical to the medical staff. He states that surgically there is no demand for his services in the hospital, while medically there is a large field for them. His connexion with the hospital, first as resident physician, and then as surgeon, dates as far back as 1873. We should regard his appointment and that of Dr. Whitehead to the Physicianship as not only just to them, but as likely to be advantageous to the hospital. The case of phthisical patients is one demanding much care and time, and these cannot be given with the present staff.

SANITATION AT LEEDS.

THE sanitary supervision of so vast a town as Leeds presents unusual difficulties. A rapidly increasing population, estimated at 327,324, is spread over 22,974 acres of hilly ground, which it has been found necessary to divide into thirteen sanitary districts. A special sanitary inspector watches over each district, and these thirteen inspectors contrived in the course of twelve months to visit 17,011 houses. Considering that 6746 of these houses required sanitary improvement, it will be seen that the inspectors have been greatly overworked. Some of the cases were particularly instructive and significant. Thus, of 3943 houses with defective drainage, zymotic disease occurred in 323 before the evil could be remedied. In one house, to all appearance perfectly drained, there had been case after case of scarlet fever; ultimately it was found that the soil-pipe leaked. In another house, where diphtheria had occurred, a hole was discovered just below the trap of a drain; and this was especially remarkable, as the tenant had recently removed into this house on account of having lost her husband from blood-poisoning due to the defective drainage of her previous dwelling. In the northern district, the family of a small provision shop keeper were attacked by diphtheria. There were four cases in all; the mother and a child died, and the business was almost ruined. Dr. G. Goldie, the medical officer of the borough, has very properly published a coloured illustration of the drains of this house. In four different places the earthenware pipes passing under the house had been chipped; but in order that a two-foot run of piping might not be lost the broken side had been turned upwards. In this way leakage of water might be avoided, but sewer gas could freely escape into the house. Fortunately such trifling with human life could not now be repeated in Leeds. In June, 1878, the present building bye-laws came into force. According to these regulations, all drains must if practicable be carried outside the houses. When this is not possible, they must be laid in concrete and cemented. These works must further be tested and examined by the municipal officers, who insist on their being truly and properly laid, trapped, and ventilated. But if the bye-laws offer some guarantee for new houses, the old houses can only be remedied by the energy of the sanitary inspectors who, we reiterate, are much overworked.

TABETIC LARYNGEAL CRISES.

AT the last meeting of the Medical Society, Dr. W. M. Ord showed a patient the subject of tabes dorsalis, and Dr. F. Semon demonstrated the presence of incomplete bilateral paralysis of the abductors of the vocal cords in this patient. It appears that the stenosis of the glottis has developed and steadily increased during the past three months, whilst the patient has been under observation. The patient at first did not admit that he had suffered in any way from symptoms referable to the larynx; but later on, however, he experienced severe attacks of choking, which at times seemed to call for tracheotomy. Some authorities regard the laryngeal disturbance as being due to a primary contracture of the muscles of the glottis, but the case in question would seem to lend support to Dr. Semon's view of a slowly advancing paralysis of the openers of the glottis. Dr. Ord is in the habit of examining laryngoscopically all cases of nervous disease, and especially of tabes dorsalis, and there can be no doubt of the value of a systematic examination of such cases. For a history of laryngeal trouble may not be obtained, indeed no laryngeal disturbance need ever have occurred, and yet the laryngeal muscles may be obviously affected.

VEGETABLE FOOD FOR CHILDREN.

MR. SAMUEL MORLEY, with his usual public spirit, has been trying to help the cause of temperance and of thrift by a side-stroke in the direction of dietetics. At a vegetarian dinner given by him on Saturday to the villagers of Leigh, he advanced several reasons why this form of food should be more generally appreciated than it is. He referred to a statement that thorough-going vegetarians are usually total abstainers, advised that children should be largely fed on vegetable fare, and advocated the more extensive cultivation of herbs and fruits as being an industry available for very many of the labouring classes, and less tried by competition than that of cereals. Much might be said on each of these heads. Probably the strictest vegetarians are non-drinkers; but this rule is of course not absolute, and temperance, where it prevails, is no doubt partly a virtue of necessity or of inclination, or a principle, and does not arise out of abstinence from meat. In illustration, one might profitably compare the sober and herbivorous peoples of the tropics and subtropic zone with the largely, though not wholly, grain-eating inhabitants of Northern Scotland, whose sobriety is certainly not above question. The most valuable suggestion, however, in this well-timed address is, it seems to us, that which applies to the food of children. The body of the child consists in great measure of fluid and fatty components, and in a comparatively moderate degree of the active muscular tissues. Its income of nourishment, again, goes rather more to the building up of its constituents than to the supply of their functional

expenditure. The more inert materials, such as those of bread, are consequently in request for the laying on of substance; the more energising, as those of meat, find proportionally less occupation. We are not vegetarians, and we think Mr. Morley is not strictly such; but we probably agree in this, that for some persons, and especially children, much can be done in feeding with little meat. It is to be noted, also, that a child's food must be abundant in order to fulfil its purpose. How much more easily he may have plenty to eat of vegetable than of mixed or meat diet in the poorer ranks of our countrymen is too obvious to need remark.

THE HEALTH OF OUR TROOPS IN THE SOUDAN.

So far as we have information on the subject, the health of the troops employed in the Soudan has been remarkably good, and the arrangements made by the medical staff for the prevention, so far as possible, of disease, for its treatment when it occurs, and for affording aid to the wounded, have been most successful; indeed, they are described by the special correspondents as "admirable." But we must not lose sight of the fact that a period is now coming on when the resources of the medical service will be very severely tested. The enforced inaction of the troops during the hot season must undoubtedly prove very injurious; and the effects of solar influence on the men who must necessarily be exposed to it cannot fail to tell on the sick-list. This is indeed already beginning to be manifest at Suakim, where during the late operations several cases of sunstroke occurred. We may look for a somewhat heavy list of such cases, and of heat-fever, dysentery, and possibly cholera. A number of cases of enteric fever are already stated to have been admitted to hospital, and there seems too good reason to believe that they will increase as the season advances. It is satisfactory to know that every provision has been made which foresight could dictate; that there is abundance of medical comforts at hand; that adequate arrangements have been made for the careful nursing of the sick; that an ample supply of ice is to be had as required, and that the means of transport in hospital ships fitted up with every appliance for the treatment of the patients and the efficiency of the medical service have been provided on a very liberal scale. We have not the least doubt that everything will be done by the heads of the medical service which practical experience and scientific knowledge can suggest, but we cannot help feeling anxious about the health of the troops during the coming hot season.

SALIVARY CALCULUS IN A MEDICAL MAN.

DR. DE RATO Y ROCES describes in the *Revista Asturiana de Ciencias Médicas* his own case of salivary calculus. When a child the sublingual glands were indurated and painful; afterwards that on the right side disappeared, but the left gland continued to cause trouble, the pain being felt in Wharton's duct, and there being increased secretion of viscid saliva. These symptoms, however, disappeared for a time. For several years, especially during the later months, pain and inflammation have returned, sometimes extending to the right side. After the acute symptoms have subsided a permanent induration has always remained. Last December Dr. de Rato suffered from a more severe attack of this kind than usual, accompanied by repeated rigors, followed by severe pain and febrile disturbance. Afterwards the inflammation extended, and glossitis and amygdalitis prevented speech and the ingestion of food; then came a copious secretion of viscid saliva. By the fifth day, when the inflammation had to some extent subsided, a probe passed into Wharton's duct detected a calculus, which was extracted by forceps the following day. It was of the shape of a date stone, weighed 540 milligrammes (8·37 gr.), and of the hardness of chalk. Externally it was of a dirty white colour with reddish spots, and internally it was white. Since the extraction of the calculus the induration remains, and Dr. de Rato believes there are also small calculi in the duct.

BIRMINGHAM MEDICAL INSTITUTE.

DR. THOMAS UNDERHILL, J.P., presided at the annual meeting of the Birmingham Medical Institute on the 26th ult. The number of members is now 204, and during the past year no less than 597 books have been added to the library, which now consists of 9274 volumes. The annual income is not yet quite equal to the expenditure, but as the building and library are free from debt, the endowment unencumbered, and the number of members steadily on the increase, a growing feeling of confidence pervaded the meeting. Special votes of thanks were passed to the president, the honorary librarians and secretaries, and very important additions made to the committee by the election upon it of Mr. T. F. Chavasse, Mr. Jordan Lloyd, and Mr. Bennett May. One special feature of the Birmingham Medical Institute is that no ballot or other form of election is required to place a registered medical practitioner on the roll of members. The only requisite condition is that he undertake to observe the regulations, and be recommended by six members of the institute, of whom three shall be members of the managing committee. When this very open method was substituted for the ballot previously in force, it was feared by some that undesirable results might ensue; but in practice it has been found that the six signatures required to constitute membership afford all requisite guarantees. For the ensuing year, Mr. Sampson Gamgee was elected president of the institute, and Dr. Rickards and Mr. John Greene vice-presidents. The honorary librarians, Mr. Lloyd Owen and Dr. Saundby, and the honorary secretaries, Mr. W. G. Archer and Mr. Joseph Hunt, were re-elected.

PHARMACY IN BUENOS AYRES.

A REPORT has been made by Señor Puiggari to the National Department of Hygiene of the Argentine Republic concerning the state of pharmacy in Buenos Ayres. By means of a legalised system of granting royalties for pharmacies to non-resident proprietors, and by the permission given to medical students of whatever standing to take the title of pharmacist, a number of those establishments at present in the city are practically in the hands of very incompetent persons. In many of them Señor Puiggari found no measures, and in some where such articles existed the person in charge was incompetent to make use of them. The same remarks also apply to reagents. The examination of the drugs, too, pointed to lamentable ignorance or carelessness on the part of many of the compounders. Taking a simple and cheap substance, acid. sulph. dil., which, according to the Codex, should contain 10 per cent. of sulphuric acid, the proportions in a number of samples taken varied between 5 and 23 per cent. Again, liquor arsenicalis, which should contain 1 per cent. of arsenious acid, was found to vary from 0·06 to 1·57 per cent. Coming now to an expensive drug, opium, samples which ought to have contained 10, or at most to have varied from 8 to 12, centigrammes of morphia, actually varied from 8 milligrammes to 18 centigrammes, those containing a serious deficiency being much the most numerous. In order to remedy this condition of things Señor Puiggari recommends the abolition of the royalty system, the separation of the faculties of medicine and pharmacy, and that no one should be granted a licence for a pharmacy without the production of his diplomas and other certificates. He points out, also, the extreme facility with which the pharma-

ceutical diploma is granted in the Medical Faculty of Cordova. The President, having considered this report, states that it is impossible to veto the royalty system, but orders that the names of all pharmacies of that kind be published twice a year, so that the public may have the means of judging whether an establishment is or is not under competent management.

A COUNTY COURT JUDGE ON THE REMUNERATION OF MEDICAL MEN.

AT the Framlingham County Court lately, before his Honour, Judge Sir Francis Roxburgh, Q.C., Mr. Alexander Harkness, Surgeon, Debenham, sued Mr. Oscar W. Roberts, of the Club, Malvern, for attendance on Mrs. Roberts. The charges were, roughly, at the rate of 7*s.* 6*d.* per visit and 2*s.* 6*d.* for medicine. The visits often occupied from three quarters of an hour to an hour. The distance from the patient's house was two miles, and the defendant was in good circumstances. In spite of some medical evidence on the defendant's side, alleging the excessiveness of the fees, the judge allowed them, and remarked that he did not know a class of men who were paid worse than doctors in the country. He considered the charges were quite reasonable. We refer to this judgment with the more pleasure that it is only one of several recent decisions by county court judges in which the charges of medical men have been upheld. Medical men are, perhaps, a little too slow to assert their legal claims against ungrateful patients.

HOSPITAL SATURDAY FUND WEEKLY CONTRIBUTIONS.

AMONGST various papers sent us by the Hospital Saturday Fund is a sheet which may be used for *weekly* contributions in every week from March 21st to September 5th, the day of the collection. We have always felt that this was the direction in which the Fund can, and ought to, be developed; and we heartily rejoice to commend it to the favourable notice of foremen and others in a position to promote the Saturday collection, which has certainly never reached a figure worthy of the working classes of the metropolis.

THE AMERICAN MISSION IN SYRIA.

WE have been favoured with the statistics of the American Presbyterian Mission in Syria, including the medical work at St. John's Hospital. The physicians of the Medical Department of the Syrian Protestant College are appointed by the Order of St. John in Berlin as the medical attendants of the "Johanniter Hospital" in Beirut. This charity is supported by the Order of St. John, and served also by the Deaconesses of Kaiserswerth. In 1884 there were 571 in-door patients and 7489 treated in the Polyclinique. No part of the work of the mission does more to justify the eulogy of Lord Beaconsfield—"those sublime men, the American missionaries"—than the medical and surgical part.

THE POISONS BILL.

THE new Poisons Bill, recently introduced into the House of Lords, appears to have excited general dissatisfaction. At a special meeting of the Chemists and Druggists' Association, held at Birmingham last week, and attended by representatives of 4000 chemists, the measure was strongly opposed, as being inimical to the interests of those most intimately concerned. A strongly-worded resolution was carried by acclamation pledging the meeting and the Association to oppose the Bill by all constitutional means, and a special fund was opened for the furtherance of this object. It is stated officially that the Privy Council Office have had the Bill under discussion for some considerable time, and that the schedule has been the subject of prolonged deliberation. It is to be regretted that greater success has not attended these efforts.

THE ROYAL NATIONAL LIFEBOAT INSTITUTION.

IF medicine in its ancient and more homely sphere restrains and seeks to foil the efforts of disease, it cannot in its wider and public application remain unsympathetic towards all other motives and means by which its charge of human life is profited or saved. There are certain points in which the spirit of the National Lifeboat Association is in striking concord with the genius of our own profession. Each has to recognise and contend with an unseen extra-human influence of storm or illness, to read and forecast its peculiar symbolism, to guide a system of preventive skill designed to save life, and to heal or to rescue that life in accordance with laws of a written science. Both meet on common ground when measures of resuscitation must be used in order to complete the work of deliverance from the power of the sea. As medical men, therefore, we are gratified to learn that the sister service of recovery continues her work with unabated vigour, and we do not doubt that every member of our faculty will render her that help which need and opportunity may direct.

THE SICK AND WOUNDED AT SUAKIM.

OUR special correspondent at Suakim, in a telegram dated March 27th, states that the wounded have been removed to the hospital ship *Ganges*; the beds are all occupied but three; no deaths had occurred on board. Captain Dalrymple received a gunshot wound over the clavicle, through the spine of the scapula. The splinters of bone and the ball were removed, and he is doing well. Lieutenant the Hon. A. D. Charteris received a spear wound of the palm of the hand. The hæmorrhage was stopped without difficulty, and his condition is favourable. Surgeon Duigan, R.N., had a bullet wound through the scapula and forearm. He is progressing very satisfactorily towards recovery.

POISONING BY ILLUMINATING GAS.

DR. BIEFEL and Dr. Poleck have recently discussed in the *Zeitschrift für Biologie* the question of the relative fatal effects of charcoal fumes and of illuminating gas, it being asserted that in the former case ·19 per cent. in the air of CO destroys human life in thirty-five minutes, while a limit of 1 per cent. is exceeded in the latter case before a similar result ensues. This is attributed to the presence of oxygen in the gas; but Dr. Wagner has disputed these conclusions on the ground that the experiments were not conducted in a satisfactory manner. He agrees, however, with the statement that a mixture of gas and air possessing fatal properties is necessarily in an explosive condition.

THE PARASITIC NATURE OF MELANOSIS.

A CONCLUSION which will generally be regarded as somewhat extraordinary has recently been arrived at by M. Bard, who believes that a clinical and pathological study of melanosis and certain melanotic tumours is sufficient to prove that these morbid processes and conditions are the result of the action of a parasitic organism. This organism he believes to be no other than the black granules themselves. True, he argues, these granules (and may we add crystalline forms?) do not approximate in character to the majority of known micro-organisms, though he considers that they somewhat resemble the micrococci of actinomycosis.

COCAINE FOR THE SOUDAN.

WE are glad to hear that the National Aid Society has arranged to send a supply of cocaine for the soldiers and sailors in Egypt and the Soudan. This is a thoughtful and commendable step, the costly nature of this drug rendering it otherwise only too likely to be conspicuous by its absence. The Society, to the Princess of Wales's Branch of which the Queen has forwarded a donation of £50 and a case of tobacco, is also sending out nurses, cooking sisters, and a variety of comforts and amusements for the troops.

FROM the report of the examination made by Colonel Sir Francis Bolton of the water supplied by the several metropolitan water companies during the month of February, it appears that the Thames water sent out by the Chelsea, West Middlesex, Southwark, Grand Junction, and Lambeth Companies exhibited, on the whole, a slight increase in the amount of organic matter, the proportion being greater in the water of the Southwark and Grand Junction, and least in that of the Lambeth and Chelsea Companies. The water supplied from the Lea by the New River and East London Companies contained slightly less organic matter than the previous month's samples, the New River Company's supply being in this respect far superior to any of the Thames waters, whilst the East London Company's supply ranked with the best of the Thames waters. All the samples were clear and bright.

FROM the reply of the Local Government Board to a memorial recently forwarded by the North-Western Association of Medical Officers of Health on the subject of revaccination, it appears that the Board are not prepared to propose for the sanction of Parliament an increase in the rate of payment for revaccination relatively to the rate which boards of guardians may appoint for primary vaccination; nor are they prepared to furnish to all medical practitioners lymph for the revaccination of the several persons whom these practitioners may think proper to vaccinate. With regard to this latter point, the Board are satisfied that such revaccinations as are performed in any locality with lymph supplied at the public expense ought to be done as part of the system of public vaccination appointed for the locality.

THE Local Government Board have transmitted to the Isle of Thanet Sanitary Authority the report of Dr. Davies, their medical inspector, on the sanitary condition of that extensive district. It appears from this report that the water-supplies of the villages of Minster, Monkton, and Sarre are derived from shallow wells, many of which the inspector says are liable to pollution. The Local Government Board therefore urge upon the authority the necessity of providing a public water-supply for the villages mentioned under the powers of the Public Health Act.

MR. ADAM SEDGWICK has in preparation a new book, to be entitled "The Elements of Animal Biology," which is intended to serve as an introduction to the study of Animal Morphology and Physiology. Messrs. Swan, Sonnenschein, and Co. are to be the publishers.

SURGEON-MAJOR OLIVER CODRINGTON has been temporarily appointed Assistant Professor of Military Surgery at Netley, in the vacancy occasioned by the departure of Surgeon-Major Tobin for Suakim.

THE *Przeglond* of Lemberg announces that cholera has broken out in the Crimea, and states that the Russian authorities are endeavouring to suppress all publication of details.

THE Eastbourne Board of Guardians have resolved to adopt the suggestion which we mentioned some weeks ago as being advocated by Lady John Manners, and intend providing a mincing machine at the union, for the benefit of the inmates who are old and toothless.

THE International Conference on the Prevention of Cholera in Europe has again been postponed. Signor Mancini has now telegraphed to the various European Governments requesting that the several delegates may be instructed to assemble at Rome on May 1st.

THE American medical journals announce the death, on March 10th, of Dr. Ellerslie Wallace, Emeritus Professor of Obstetrics and Diseases of Women and Children in Jefferson Medical College, Philadelphia—the chair previously occupied by Dr. C. D. Meigs.

PHOTOGRAPHY AND MEDICAL JURISPRUDENCE.

THE DETERMINATION OF PERSONAL IDENTITY.

BY WILLIAM MATTHEWS, BRISTOL.

IN all books dealing methodically with the topic of medical jurisprudence, attention is directed to that division of the subject which treats of legal identification and its related particulars. The rules and usages by which the procedure is governed are primitive, but of long antiquity. Whether before the accredited officer of the Crown, the county coroner, or before the courts of criminal law, the corporal presence of the individual touching whom the inquiry is on foot is an indispensable preliminary. "If the body be not found, the coroner cannot sit," says Blackstone. "An inspection of the body is the essence of the inquiry," observes Dr. Taylor in the "Principles of Medical Jurisprudence." Upon occasion in the courts of civil procedure also the question of identity becomes the essential feature of the investigation. It is the real issue submitted to the adjudicators. "In such instances," says Dr. Beck, "the whole evidence turns on the question of identity." Stature, temperament, marks upon the person, colour of the hair, colour of the eyes, general resemblances, these have, heretofore, been the ordinary elements of the physiological sort upon which a conclusion has been based.

When and where photographic portraiture was first introduced to the notice of the courts does not clearly appear. Certainly, it has not been received with undeviating reliance; for the photographic presentment in many instances differs very materially to the eye from the personal reality. Witnesses, upon their oath, have sometimes been requested to pronounce upon resemblances from which, under ordinary conditions, they would have shrunk in bewildered uncertainty. Yet when considered from the stand-points (1) of their perfect accuracy of delineation, (2) of their minutely-true reproduction of the proportionate areas occupied by the several features, and (3) of the apparent permanence, in adult life, of those proportionate areas, there would certainly appear to be no inscrutable reason why photographs might not be subjected to tests of a severely scientific nature.

There are three or four indispensable conditions to be accepted by scientists, preliminary to such a consummation. 1. A due recognition of the permanence of the essential particulars of a given face. 2. Of the greater or less divergence of all other faces whatsoever from the permanent particulars of the face in question. 3. The requisite reliability of a unit of admeasurement that shall, similarly, be (*a*) permanent in a given face; (*b*) discrepant, more or less, in all other faces. 4. The accredited presence of a sufficiently undeviating horizontal plane, to afford an available zero or datum line.

Now, in order to sustain the proposition that a given adult face is permanent in its chief particulars, it needs but the obvious reflection—(1) that when a man stops growing the bones of his face stop growing at the same time

as all the rest; and (2) that when the bones of the face cease growing, the several features thenceforward retain in permanence their original *locus in quo*. It should go without saying that the requisite unit of the admeasurement must necessarily be sought in the face itself; for by this expedient the varying magnitudes of photographic portraits are effectually provided for. Hence the adaptability of the coloured circle of the eye for the desired purpose—(1) It is well-defined at its exterior circumference; (2) it is a permanent quantity in a given individual; and (3) its dimensions so materially differ in different persons, that of itself it is an important factor of diversity between photographs that are inherently discrepant. Granted, then, the requisite permanence of the facial perpendicular, and the requisite permanence of the unit of the admeasurement (the diameter of the iris at its exterior rim), it remains but to consider the limitless amplification of the facial diversity. It has been long an accepted hypothesis that the dimensions of an ideally perfect face should consist of certain duplicate and triplicate repetitions of its own elements; yet, nevertheless, that all actual faces are, to a greater or less extent, departures from the given ideal. In strict conformity with this hypothesis it may be pointed out that the endlessly numerous permutations which are everywhere consequent upon the presence of even a few factors of diversity is a matter quite amenable to arithmetic proof. This principle of permutation finds its always familiar illustrations in the "ringing of changes" upon an octave of bells, in the casting of dice, and in the myriads of differing verbal forms that a few vocal articulations have afforded to all the nations of the earth.

In conclusion, the general and special data which have been here set forth appeal in the first instance to the common apprehension of men of intelligence; and, secondarily, to the tests and investigations of experts. As the result of such tests and investigations, it is now confidently maintained that the data and conditions enumerated are trustworthy, and open to proof. The photographic portraits of various public personages, taken after intervals of twenty or more years, and suitably enlarged, have been found to correspond very minutely in admeasurement, whilst in the meanwhile great external change has been going forward in their countenance. On the other hand, a comparison of the portraits of any two distinct individuals, tested under the same rigid conditions, fully justifies the statement that, in such cases, varied and palpable discrepancies will inevitably become manifest.

The physiological facts having been accepted, the formularies of procedure may suitably engage attention. To those to whom the topic is new, an explicit statement of details might prove the more convenient; but summarily and technically, those particulars may be dealt with as follows:—1. Upon a photograph of enlarged magnitude let a right line be drawn from centre to centre of each pupil. 2. From the given centres describe arcs intersecting each other, above and below the right line, of a radius as the distance between the centres. 3. From the points where the arcs cut each other produce the perpendicular. This will, necessarily, be the true facial perpendicular, whatever may be the pose of the sitter. 4. Lay off a parallel on either side of the perpendicular at the distance of the given centres. 5. Lay off a series of parallels, above and below the line of the pupils, and let their measured distance apart be that of *precisely the diameter of the iris*. 6. Let each parallel extend over the right-hand margin of the portrait, and be numbered consecutively. The given line of the pupils being a naught or zero, let the other numbers proceed from it, upward and downward. 7. Reproduce these details upon the second portrait, and thereupon proceed to make the necessary comparison of particulars.

With the aid of the appliance known as the "identiscope," the required comparison can be effected under conditions the most favourable for careful inspection. Reproduced upon lantern-slides, conjoined by the agency of the zero-points, the compared portraits may be projected in combination, upon a scale of magnitude that would cause the most minute discrepancies to stand revealed, in any reputed instance of spurious or assumed identity.

UNIVERSITY OF ABERDEEN.—The Keith medal, instituted in commemoration of the late Dr. Keith, has been awarded to Mr. George Findlay. Clinical and general surgery form the subjects of examination.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

The Sanitary State of Alnwick, by Mr. JOHN SPEAR.[1]—The attention of the Local Government Board has for some years past been conspicuously directed to the sanitary condition of the Alnwick and Canongate urban district, both on account of its excessive mortality and by reason of reports of successive officers of health, who have resigned with exceptional frequency. And finally, the depositions taken at an inquest went to show that the conditions attaching to certain common lodging-houses indicated a state of grave sanitary neglect. The population was 6691 in 1881, and it consists to an unusually large extent of labourers, navvies, tramps, hawkers, and the like, who find accommodation in lodging-houses maintained largely by keepers of Irish nationality. Alnwick has a somewhat important sanitary history. It was inspected in 1849 on behalf of the General Board of Health, and was found to be marked for its wet surface, damp subsoil, and absence of artificial drainage, besides conditions as to arrangement of houses on areas which prevented even the most ordinary circulation of air about them. But in 1850 certain important improvements, including the sewerage of the town, were carried into effect. In 1866 Dr. Buchanan visited the town in connexion with the important report which he subsequently wrote on the relation of phthisis mortality to conditions of soil-wetness, and he found, in addition to the improvements already referred to, that others of importance, including the provision of a public water service, had been effected. But the actual results of these improvements were found to be in the main disappointing in so far as the mortality had been influenced. The general mortality rate had only fallen from 26·2 to 24·7 per 1000; there had been a reduction as to typhoid fever and diarrhœa from 1·35 to 0·87, and from 0·70 to 0·47 per 1000 respectively. But on the other hand, the rate from consumption had risen from 2·83 to 3·30, and that from other lung diseases from 2·80 to 4·05. Mr. Spear now tabulates the mortality returns from a number of specified diseases down to the end of 1883, and it is found that phthisis has made a still further increase in the magnitude of its rate, whereas the rate for other lung diseases remains practically where it was. The fact is, in the first instance, that the works of drainage effected in Alnwick did not, as elsewhere, succeed in reducing the level of the subsoil water beneath the town, and it has been just in proportion to such lowering that the reduction of the phthisis mortality has taken place elsewhere. But although Alnwick effected improvements some thirty years ago, the place has stood still since, if indeed it has not actually deteriorated as regards its sanitary state, and the lamentable account given by Mr. Spear of the crowded courts and alleys; of the absence of control exercised by the authority over the increasing amount of overcrowding; of the mingling together of houses, stables, middens, pigstyes, and the like; of dwellings built right into the damp earth; and of the disgraceful conditions existing in common and other lodging-houses, amply suffice to explain why a disease such as phthisis, which is so favoured by the conditions of crowding and want of fresh air referred to, has increased rather than diminished. The report embodies a long description of places such as have been referred to; and although it also contains an account of some excellent dwellings erected for the poor and of baths and washhouses, all provided by the Duke of Northumberland, yet such improvements are all but ineffectual in the face of the long-standing sanitary neglect in other matters. The secret of the neglect as regards house accommodation is, however, apparent from the report itself. Individual interests among members of the Town Council have paralysed the sanitary administration. This is why, according to Mr. Spear, so many dwellings entirely unfit for habitation are not dealt with; why building and rebuilding in crowded yards cannot be effectively stopped; why

[1] To be purhased of Knight and Co., 90, Fleet-street; Shaw and Sons, Fetter-lane; Haddon, Best, and Co., West Harding-street; and P. S. King and Son, King-street, S.W.

stables, middens, piggeries, and a hundred other nuisances remain undealt with. And even where nothing but a trivial alteration is needed the authority appears to stand idle. Thus, notwithstanding the immense danger now known to attach to a system by which there is a direct connexion between the interior of watercloset pans and the interior of the water mains, the sanitary authority have failed to take the necessary remedial action. And why? Because, says Mr. Spear, it would have required owners of property to provide so small a thing as the necessary flushing boxes for closets, and, "shrinking from this duty," they have "staked the health of the whole town on a mere chance." It is lamentable in these days, when so much importance is attached to the extension of the principle of local self-government, to read a report like this, in which, notwithstanding recurring elections to the Town Council, such a town as Alnwick can so long have had an authority tolerating such neglect as is now recorded, and all because those whose duty it is to act for the public benefit have "failed to hold the balance justly between individual interests and the interests of the town." In so far as the housing of the poor is concerned, it is to be hoped that Sir Charles Dilke has brought this report under the notice of his fellow-commissioners, and there are other respects in which the case merits the attention of the central government.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

King's Norton Rural District.—Exclusive of deaths of non-residents in public institutions, this district had in 1884 a death-rate of 14 per 1000, the zymotic rate being 0·8 per 1000. Although there was much small-pox in Birmingham during the year, no spread occurred in this rural district. Occasional importations were isolated in hospital, and, for the rest, the district has been protected, as the result of the efficient labours of the vaccination officer. Scarlet fever was also isolated in hospital, and, although twenty-four cases came under observation, no death occurred. The need for such construction of ashpit privies as will be free from nuisance is evidently very great, and Mr. Hollinshead is looking for the remedy in the new bye-laws which are under preparation. These will, of course, only affect new structures; but where sanitary authorities issue new diagrams and plans showing the form of closet permissible under bye-laws, it is astonishing to find how many of the older closets are in time altered according to the pattern indicated. It must, however, be remembered that a proper closet implies a small receptacle for filth, and the latter necessitates frequent removal of contents. Where an adequate system of scavenging is not in operation, people will never put a proper limit on the capacity of their privies, and before the new closets are constructed we advise the authority themselves to arrange a scheme which shall give every house at least a weekly visit, wherever the population is considerable.

Huddersfield Urban District.—During the fifty-three weeks included in the statistical year 1884, the death-rate for Huddersfield was 19·5 per 1000, and it is evident that on a long series of years there has been steady improvement in this respect. The rate from the seven principal zymotic diseases was 3·15 for the previous six years; in 1884 it was 2·38. The diarrhœa death-rate for the third quarter of the year, although not absolutely high, was nearly a tenth of the total mortality for that quarter, and it is to the high temperature and scanty rainfall that the result is in the main attributed by Dr. Cameron. But diarrhœa was more prevalent in 1882 than it was in 1884, and possibly this was due to the precautionary measures now adopted. Wherever a fatal case of diarrhœa was heard of, hose and pipes were at once sent to flush out the local drains, and all accumulations were at the same time removed. Thus, in an important sense the drawback attendant upon scanty rainfall was made good by the authority's officers. Enteric fever also became prevalent in the fourth quarter of the year; but the system of notification worked well and smoothly, and the great improvement effected in the hospital provision came in useful. Of 67 cases reported, no less than 47 were admitted into the Birkby Hospital, and following on this came a system of disinfection for the local drains. Under the compulsory Act, 234 cases were reported. Of these, 118 were cases of scarlet fever, and 94 of them were removed to hospital. The Act is again reported to have worked smoothly. The system of house-to-house inspection which has been in operation, and which is so deservedly regarded as one of the most important duties which sanitary officers can carry out, was temporarily suspended owing to changes in the staff. Much valuable work of a very similar sort was, however, effected as the result of the information acquired by the system of notification.

Brentford Urban District.—Sewers have now been laid throughout the district, and during the past year the work of making the house connexions has been in progress. At the same time sanitary defects which these works disclose are remedied, cesspools are filled in, and other sources of danger to health are abated. Some nuisance having been experienced from the sewer manholes, ventilating shafts have been erected, and during the warm weather hand flushing was resorted to. A first step has been taken to provide means of isolation by the erection of a Doecker hospital hut, but the present site is not regarded as permanently decided on. The annual death-rate was low—namely, 12·28 per 1000; that from the principal zymotic diseases was 1·2 per 1000. The estimated population is 12,307.

Holsworthy Rural District.—On a population of some 9000 the birth-rate for 1884 was 30·8, and the death-rate 16·5 per 1000. The only deaths coming within the group of the principal zymotic diseases were 4 from diarrhœa and 6 from whooping-cough. During the spring and early summer a smart epidemic of sore-throat, which Mr. Linnington Ash did not regard as diphtheritic, occurred in Holsworthy town. It was attributed to emanations from the sewers, the gully traps having become unsealed in the streets, owing to the combined effect of drought and strong north-east wind. In Ashwater much the same sort of disease occurred during the third quarter of the year. The affection was distinctly infectious, but it was not regarded as either diphtheria or scarlet fever. It caused no deaths. Improvements as to the water-supply of the district are steadily in progress, but much remains to be done in this respect, especially in Holsworthy town, which is dependent on surface wells liable to become dry during drought, and is also subject to the risk of pollution. This matter has been referred to before in the annual reports, and the time has come when the authority should take it in hand with a view of providing the inhabitants with a proper supply of one of the first necessaries of life.

Llanelly Rural District.—Dr. Raglan Thomas reports a diminution in the amount of epidemic prevalences, and in part he regards this as due to the system of paying a small fee to medical practitioners who have voluntarily reported fresh outbreaks. When such reports come in a searching inquiry is at once made, as is indeed indicated by a lengthened tabulated *résumé* of the conditions discovered. It would be still more interesting if, on future occasions, a column were to indicate the action which had been taken as the result of the discoveries made. Bye-laws now provide for the removal of all privy accumulations twice a week, but, as is often the case, people who are without sufficient garden ground are unable to comply with the regulation. Where this is the case the authority should regard it as its own duty to effect the scavenging with the needed regularity and frequency, instead of imposing the obligation on occupiers. A curious instance of water poisoning by zinc came under notice in connexion with the use of the Cwmfelin water. A very pure water had, by virtue of the dissolved oxygen and carbonic acid naturally present in it, taken up 6·4 grains of carbonate of zinc per gallon. This result, which is described by the analytical chemist as unique in his experience, was brought about by the use of so-called "galvanised" water pipes. Boiling causes precipitation of the zinc. Dr. Thomas still deplores the absence of an infectious hospital in his district. The death-rate for 1884 was 15·6 per 1000 living.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN twenty-eight of the largest English towns 5872 births and 3967 deaths were registered during the week ending the 28th ult. The births exceeded by 58, and the deaths by 340, the average weekly numbers during 1884. The annual death-rate in these towns, which had been equal to 20·6, 22·1, and 23·5 per 1000 in the preceding three weeks, declined again last week to 23·2. During the first twelve weeks of this year the death-rate in these towns averaged 22·6 per 1000, against 24·6, the mean rate in the corresponding periods of the nine years 1876-84. The lowest death-rates in these towns last week were 17·8 in Portsmouth,

18·0 in Derby, 18·5 in Bradford, and 18·7 in Brighton. The rates in the other towns ranged upwards to 31·2 in Manchester, 31·7 in Newcastle-upon-Tyne, 33·9 in Oldham, 40·4 in Sunderland, and 41·9 in Cardiff. The deaths referred to the principal zymotic diseases in the twenty-eight towns, which had increased from 377 to 443 in the previous four weeks, further rose to 451 last week; they included 176 from measles, 124 from whooping-cough, 37 from "fever" (principally enteric), 37 from diarrhœa, 31 from scarlet fever, 25 from small-pox, and 21 from diphtheria. No death from any of these zymotic diseases was recorded last week in Brighton, whereas they caused the highest death-rates in Newcastle-upon-Tyne, Cardiff, and Sunderland. The highest death-rates from measles occurred in Huddersfield, Newcastle-upon-Tyne, Cardiff, and Sunderland; from whooping-cough in Preston, Cardiff, and Oldham; and from "fever" in Newcastle-upon-Tyne, Preston, and Norwich. The 21 deaths from diphtheria in the twenty-eight towns included 11 in London, 3 in Cardiff, and 2 in Portsmouth. Small-pox caused 47 deaths in London and its outer ring of suburban districts, 2 in Sunderland, 1 in Manchester, and 1 in Newcastle-upon-Tyne. The number of small-pox patients in the metropolitan asylum hospitals situated in and around London, which had declined in the preceding five weeks from 1223 to 830, had increased again to 865 on Saturday last; and the admissions, which had been 94, 104, and 137 in the previous three weeks, further rose to 179 last week. The Highgate Small-pox Hospital contained 94 patients on Saturday last, the admissions in the week having been 31, a higher number than in any previous week of this year. The deaths referred to diseases of the respiratory organs in London, which had been 374, 455, and 487 in the preceding three weeks, declined again to 448 last week, and were 69 below the corrected weekly average. The causes of 121, or 3·1 per cent., of the deaths in the twenty-eight towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Norwich, and in three smaller towns. The largest proportions of uncertified deaths were registered in Halifax, Preston, Hull, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual death-rate in the eight Scotch towns, which had been equal to 24·4 and 24·2 per 1000 in the preceding two weeks, further declined to 23·3 in the week ending the 28th ult., and was almost identical with the rate (23·2) during the same week in the twenty-eight large English towns. The rates in the Scotch towns last week ranged from 10·6 and 14·1 in Leith and Greenock, to 22·0 in Paisley and 29·9 in Glasgow. The 568 deaths in the eight towns included 32 which were referred to whooping-cough, 18 to measles, 12 to diarrhœa, 6 to "fever," 4 to scarlet fever, 1 to diphtheria, and not one to small-pox; in all, 73 deaths resulted from these principal zymotic diseases, against 88 and 85 in the preceding two weeks. These 73 deaths were equal to an annual rate of 3·0 per 1000, which was 0·4 above the mean rate from the same diseases in the twenty-eight English towns. The deaths from whooping-cough, which had been 22 and 35 in the preceding two weeks, were 32 last week, and included 17 in Glasgow, 5 in Dundee, and 3 in Greenock. The 18 fatal cases of measles showed a decline of 10 from the number in the previous week; they all occurred in Glasgow. The 12 deaths attributed to diarrhœa showed an increase of 6 upon the number in the previous week, and exceeded by 3 the number in the corresponding week of last year. The 6 deaths referred to "fever" included 3 in Edinburgh and 2 in Glasgow; while all the 4 fatal cases of scarlet fever occurred in Glasgow. The deaths referred to acute diseases of the respiratory organs in the eight towns, which had been 122 and 124 in the previous two weeks, were 122 last week, and exceeded the number in the corresponding week of last year by 5. The causes of 71, or more than 12 per cent., of the deaths in the eight Scotch towns last week were not certified.

HEALTH OF DUBLIN.

The rate of mortality in Dublin, which had been equal to 32·7, 39·5, and 34·6 per 1000 in the preceding three weeks, further rose to 40·4 in the week ending the 28th ult. This is a higher rate than has prevailed in any previous week of this year. During the first twelve weeks of this year the death-rate in the city averaged no less than 34·1 per 1000; the mean rate during the same period did not exceed 21·6 in London and 20·3 in Edinburgh. The 273 deaths in Dublin last week showed an increase of 39 upon the number in the previous week, and included 32 which were referred to the principal zymotic diseases, against 30 in each of the preceding two weeks. Of these 32 deaths, 12 resulted from measles, 7 from scarlet fever, 6 from "fever" (typhus, enteric, or simple), 3 from diphtheria, 2 from whooping-cough, and 2 from diarrhœa. The annual death-rate from these principal zymotic diseases was equal to 4·7 per 1000; whereas the rate from these diseases last week did not exceed 2·5 in London and 1·7 in Edinburgh. The fatal cases of measles in Dublin, which had been 11 and 16 in the previous two weeks, declined again to 12 last week. The deaths from scarlet fever and diphtheria, on the other hand, exceeded those returned in any recent week. The 6 deaths from "fever" showed an increase of 3 upon the low number in the previous week. Seven inquest cases and 8 deaths from violence were registered within the city; and 85, or nearly a third, of the deaths were recorded in public institutions. The 51 deaths of infants exceeded the number in any previous week of this year, and those of elderly persons were also numerous. The causes of 38, or 14 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

We understand that in view of the necessity for an increase in the Army Medical Staff, the Secretary of State for War has decided to grant appointments to all the candidates who, at the late competitive examination, obtained the necessary qualifying marks, but were excluded in consequence of being beyond the number required to fill vacancies. This will provide an addition of about thirty-eight officers to the Department.

We note that a telegram having been received recently by Her Majesty's Secretary of State for India from the Government of India, requesting that all officers in military employ on furlough may be directed to rejoin their regiments or appointments, instructions to this effect were issued on the 25th ult. to all medical officers, as also to combatant officers, of the Indian army to proceed to Brindisi in time to join the Peninsular and Oriental Company's mail steamer there on the 6th inst.

INDIA OFFICE.—The Queen has approved of the following admissions to her Majesty's Indian Medical Service:—John Tasman Waddell Leslie, David Prain, Arthur Thomas Bown, Upendra Nath Mukerji, and William Locking Price, to be Surgeons in the Bengal Army.

ADMIRALTY.—The following appointments have been made: Staff-Surgeon James Dunlop, M.D., to the *Ruby:* Surgeon Herbert Canton, to the *Ruby:* Staff-Surgeon Albert C. Traceby, to the *Mercury:* Surgeon Edward R. T. Fasker, to the *Shannon*, additional; Surgeon Edward H. Williams, to the *Cockatrice:* Surgeon Penrose J. Barcroft, to the *Imogene:* Herbert M. Sweetman to be Surgeon and Agent at Schull; and Francis Rennie, M.B., to be Surgeon and Agent at North Shields; Staff-Surgeon Albert C. Queely, to the *Mercury:* Thomas W. Fryer to be Surgeon and Agent at Gerran's Bay; George W. Hill to be Surgeon and Agent at St. Mawes and St. Anthony.

ARTILLERY VOLUNTEERS.—1st Lancashire: Thomas Moore Dawson, Gent., to be Acting Surgeon.

ENGINEER VOLUNTEERS.—1st Newcastle-on-Tyne and Durham: Surgeon John Wilson resigns his commission.

RIFLE VOLUNTEERS.—1st Clackmannan and Kinross: Peter Rough, Gent., M.A., M.B., to be Acting Surgeon.—2nd Volunteer Battalion, the Lincolnshire Regiment: Surgeon and Honorary Surgeon-Major Edwin Morris, M.D., resigns his commission; also is permitted to retain his rank, and to continue to wear the uniform of the battalion on his retirement.

THE LATE GENERAL GORDON.—We understand that the *Boy's Own Paper*, of the Religious Tract Society, whose readers have already subscribed over £1200 for two lifeboats, besides £400 for a hospital cot, is promoting a Boys' Gordon Memorial on the lines known to be dear to Gordon himself—viz., to help the poorer working and suffering lads.

Correspondence.

"Audi alteram partem."

THE NEW EDITION OF THE NOMENCLATURE OF DISEASES.

To the Editor of THE LANCET.

SIR,—The second edition, being the first revision of "The Nomenclature of Diseases," is now in the hands of the profession. A memorandum of the Subcommittee on Classification inserted therein quotes the first line of the preface of the first edition, which declares "the perfecting the statistical registration of diseases" to be the object of the undertaking, and then significantly adds, "this object has certainly not been as yet attained." I think the bulk of the profession will so far agree with the subcommittee in this expression of opinion, for it will doubtless assume that the prefatorial memorandum was written, as is customary, after the rest of the work was in type.

"To-morrow the critics will commence—men who have failed in literature and art," some members of the subcommittee may possibly say, quoting Lord Beaconsfield. To them the painstaking registrar will reply, in the words of a still greater authority, "I am nothing, if not critical."

May it not be possible, for instance, for cases of "frost-bite" to occur in this variable climate of ours? One such accident comes under the notice of our conscientious statistician, who wishes to notify the same in an orderly manner. He turns to his copy of "The Nomenclature," which a parental Government has just forwarded him, and looks out "frost-bite" in the index. He is referred to pp. 193, 215, 217, 223. He opens the volume at p. 193, and finds the ailment in question placed under diseases of the skin. He turns to page 215, and perceives it inserted under general injuries with a note as to its limitations. At page 217 it is placed amongst the local injuries, and at page 223 along with injuries to the skin. If this arrangement (?) is insufficient to produce the bewilderment necessary for statistical purposes in the brain of our conscientious statistician, I may yet add a further section, wherein "frostbite" can have a place, and that will be found at page 12—"Effects of cold." Somewhat similar results would be the outcome of attempts to classify the other "effects of climate, &c." recorded in the nomenclature. I shall not, however, encroach on your valuable space by recapitulating them.

A casual perusal of the volume in question has, however, brought to light the following further peculiarities—e.g.: Alcoholism (p. 12) is a disease of diet; alcohol (chronic poisoning by) (p. 203) is included among the poisons; mercurial tremor may be either a disease of the nervous system (p. 27), or the result of a poison (p. 199); syncope is both a disease of the nervous system (p. 29) and one of the circulatory system (p. 71); ranula occurs twice (pp. 89—99); chromium is the only metal whose salts are given in the section (p. 199); phosphorous acid is a poison; nitrous and sulphurous acids are not given (p. 201); sulphate of indigo is named (to use a parliamentary expression) in the short list of poisonous acid salts (p. 201); picric acid is called by the discarded name carbazotic acid (p. 203); elephantiasis (p. 123) is classified as a proliferation tumour, whether it is evidently caused by the presence of the parasite filaria sanguinis or not; we also learn that this disease is a variety of "diffuse fibroma" (p. 309); tubercle is a variety of granulation tumour (p. 313); gonorrhœa is a disease of the whole body (p. 11); gleet (gonorrhœa mucosa) is a disease of the male organs of generation, unless it is caused by gonorrhœa (p. 135). In the first edition, gonorrhœa was placed amongst diseases of the urinary system. "Amyloid," the synonym of the rarely-used term "lardaceous," is frequently omitted—e.g., pp. 3, 105. The following diseases and synonyms are omitted: Comedones, area Celsi, Duchenne's paralysis, Jacksonian epilepsy, amyotrophic lateral sclerosis, and many other well-known nervous diseases. Fetid bronchitis, malignant endocarditis, peritonitis due to gonorrhœa, perimetritis and parametritis are not inserted in the index, although they occur on page 147.

Many fairly common poisons are also omitted—e.g., croton chloral hydrate, paraldehyde, &c. Finally, "morula" (O tempora! O morula!) is the Latin equivalent for "yaws." One would almost imagine that our classic must have been pleading with the printer's devil for a "brief respite" from the latter's too persistent visits for "copy" when he substituted "morula" for the time-honoured "frambœsia," although the latter's derivation from the French (alluded to by Bateman) is scarcely classical.

I am, Sir, yours obediently,

Brighton, March 30th, 1885. W. AINSLIE HOLLIS.

FORENSIC MEDICINE.

To the Editor of THE LANCET.

SIR,—I have waited in the hope of seeing letters from more experienced writers and abler pens than mine confirming the remarks of your able leader of March 7th. There are, according to the Medical Directory, fifty-one medical coroners in England and Wales out of a total of 281. The subjects of forensic medicine and coroners' inquests penetrate every nook and cranny of medical practice in England, Wales, and Ireland; and, though there is no coroner's inquest in Scotland, the subject of forensic medicine has received more practical attention there than in any other part of the United Kingdom. I am surprised, therefore, that no notice has as yet been taken of your leading article by some of the many who are so capable of dealing with it. Having in the course of the last twenty years made many post-mortem examinations for different coroners, and taking great interest in all medico-legal cases, I am in a position to confirm the remarks in the second part of your article.

There is a very forcible reason why two examiners should always be employed in cases involving a criminal charge, which you have omitted to notice. One may be ill or even dead when the trial comes on, and if he has been unassisted there is no one to give evidence or to be cross-examined. It is true that the depositions before the coroner and magistrate are in court and can be read, but anyone who has attended trials must know what a very unsatisfactory substitute for a witness are his depositions.

Another point which can hardly be ignored is the importance of a division of time and labour. I know nothing more fatiguing than making a post-mortem examination of an adult corpse, completely and satisfactorily, by oneself. Even in a hospital dead-house, with every convenience, it means time and work; but in the dwellings of the poor, without any convenience whatever, and with the body lying on the floor, it becomes as hard a task as can well be undertaken.

The importance of expert evidence in criminal cases will be seen by a reference to recent trials. In the Penge case the question was simply, Did the deceased die from starvation or natural causes? and had there been present at the autopsy one of the many experienced pathologists attached to the metropolitan medical schools, most of the difficulties of the case would have vanished. In two cases which occurred recently in Manchester, the evidence of Dr. Cullingworth, the lecturer on Forensic Medicine at Owens College, was most important; strengthening the case for the prosecution in one and disproving a groundless charge in the other. And in all cases which are likely to proceed to a higher court it is obviously desirable that the coroner and medical witness should have the benefit of a second opinion—i.e., of an expert, well experienced in post-mortem examinations, and with a competent knowledge of forensic medicine.

Another matter which you have not noticed is that the coroner in a certain proportion of the cases which come before him has absolute discretionary power in the selection of a medical witness, none having been called in either before or after death. Hence, in all these, he is at liberty to employ an expert without any encroachment upon the rights of general practitioners. And it is these unappropriated cases, as they may be called, which might be utilised for the study and practice of forensic medicine. In 1861 the chair being then vacant, the late Dr. Ayrton, who was generally chosen by the coroner at that time to make all post-mortem examinations for him, was appointed the lecturer on medical jurisprudence at our local medical school, and it was hoped that the appointment would enhance the interest of the lectures. Dr. Ayrton only lectured, however, for one session, and the experiment was abortive. In a paper read before our medical institution in 1876 on the "Coroner's Court," I attempted to show how it

might be rendered more effectual in providing "the more efficient performance of all medico-legal autopsies and a field for the practical study of forensic medicine in our medical schools." Referring to the latter, I observed, "In a word, every department of medicine should be taught and learned 'practically.' Why should forensic medicine be any exception to the rule? Within a distance of very little over a mile from the Royal Infirmary is a place which affords a field for the practical study of forensic medicine little inferior to the Morgue of Paris, where world-renowned medical jurists, Orfila, Devergie, and others, acquire their reputation. I refer to the dead-house, Prince's Dock, where cases of death from drowning, burning, suffocation, exposure to cold, and infanticide, may be seen in almost every variety. ..... Now, without encroaching upon other gentlemen's province, the students of the Royal Infirmary School of Medicine (now the Medical Faculty, Liverpool University College) might have many opportunities afforded which they do not now possess. During the summer session the lecturer on forensic medicine might, I am sure, easily obtain permission of the authorities to visit this place and show the external appearances of death from the various causes I have indicated as to be met with there." The suggestion was favourably received by those present at the meeting, which included Dr. Ewing Whittle, then, and until very recently, lecturer on medical jurisprudence. But changes are not easily made, and so far nothing has been done. Mr. F. T. Paul, a most experienced pathologist, has just been elected to the vacancy, and I trust that he will be afforded every reasonable opportunity of both practising and teaching forensic medicine.

With regard to toxicology, it seems to me to be very important that students should be taught the detection of poisons in urine, vomited matters, &c., although the more elaborate examination of these, as of viscera, must be left to the analytical chemist. But the medical practitioner is the first on the spot, and it is his accurate observation of facts and symptoms which leads to detection. In the Edinburgh opium poisoning case, which occurred some years ago, it was reported that some spots on the nightdress of the deceased were detected by the chief medical witness as caused by laudanum having been spilled. This single fact proved a most important piece of evidence, as the case presented all the usual difficulties of opium poisoning. In the Lamson case the careful preservation and analysis of the matters first vomited were the most important links in the chain of evidence against the prisoner. Much, if not all, the mystery of the Bravo case would have been dispelled by a careful analysis of the urine, fæces, and vomited matters while the unfortunate deceased was still living. More important than analysis is the careful observation of symptoms, and comparing them with those of poisoning. In the recent cases of murder by arsenic in this city it was shown by the confession of one of the prisoners that eleven deaths were due to arsenic administered by one or both of the accused persons. All these persons had been attended by medical practitioners, and the deaths had been duly certified. How many more victims might have fallen had not the death of Thomas Higgins excited Dr. Whitford's suspicion, it would be hazardous to guess; but the case shows the importance of careful observation. It was the sudden nature of the death which excited Dr. Whitford's suspicion, though in the miserable surroundings of the case he failed to see any motive for foul play until he heard that the life of the deceased, a poor bricklayer's labourer, was insured to the extent of £100.

I could have added more were this letter not already too long. I conclude with the hope that the defects you have indicated will be remedied, and that forensic medicine will become, as so interesting a subject deserves to, a thoroughly practical and attractive branch of medical study.

I am, Sir, yours faithfully,

Liverpool, March 25th, 1885. FRED. W. LOWNDES.

PHYSIOLOGY IN OXFORD.

To the Editor of THE LANCET.

SIR,—You have thought fit to accuse those who recently opposed the grant to the Physiological Laboratory at Oxford of misrepresentation, recklessness, injustice, and an unwarrantable use of personal allusion. As all the circulars and notices issued by the opponents of the grant passed through my hands, I ask you to allow me to repudiate your accusation as emphatically as possible, and in enclosing you the documents in question I challenge you to point out one single sentence containing a misrepresentation, a reckless or unjust statement, or any personal allusion which an official position does not warrant. Two concessions only were asked of Professor Sanderson—viz., that he would not hold a certificate to dispense with anæsthetics, nor one to free him from the necessity of killing the animal.

Now, if the promoters of the grant had said openly, "Away with such restrictions and concessions; they are an insult!" the opponents of the grant, however much they might have regretted such a declaration, would have respected it as the bold challenge of a candid antagonist. But in the circular issued in advocacy of the grant, and in the debate in Convocation, the arguments used were, "There are to be no painful experiments on living animals, either with or without anæsthetics. The grant is only for coal, gas, and water." You, Sir, know well that there may and will be painful experiments on living animals without anæsthetics within that laboratory *for purposes of research*, and to say, as was said, "There will be none for purposes of demonstration and instruction," and at the same time to suppress all allusion to experiments for research, is an act of "aggressive concealment" unworthy of those who believe they have a good case.

I am, Sir, your obedient servant,

FREDERIC E. WEATHERLY, M.A.

Brasenose College, March 28th, 1885.

*** Mr. Weatherly cannot be ignorant of the fact that the cause he advocated received some of its most powerful support from others than those immediately concerned in the voting at Oxford. Our remarks did not apply to the phraseology of the circulars with which he has favoured us.—ED. L.

INSANITY AFTER OVARIOTOMY.

To the Editor of THE LANCET.

SIR,—It would seem desirable that every case in which ovariotomy has been followed by insanity should be recorded.

Some years ago, in Sydney, I removed a large ovarian cystoma from a widow aged about forty. I have not brought the notes of the case with me, and cannot therefore give her exact age. Three days after the operation she became insane, and, unlike most of the cases related by the speakers upon this subject at the last meeting of the Clinical Society, the disease became chronic, and it was found necessary to confine the patient in the asylum at Gladesville. The disturbance of the mental balance in this case, I thought, was due to the sudden and violent change from extreme mental depression to excessive joy. The patient had quite made up her mind that she should die under the operation, and had given directions as to the conduct of her funeral. Her extreme astonishment when she recovered from the effects of the anæsthetic at finding that she was not only living, but rid of her burden, I shall not soon forget. I should state that there was no family history of insanity.

I am, Sir, yours obediently,

Sydenham-hill, March 30th, 1885. P. SYDNEY JONES.

HICKS *v.* BEDFORD AND OTHERS.

To the Editor of THE LANCET.

SIR,—Dr. Rogers, in his interesting letter published by you on March 21st relating to this case, draws attention to a very important passage in Mr. Justice Wills' charge to the jury. The quotation given is that "there is no statutory power whereby anyone, lunatic or otherwise, can be detained in a workhouse against his will." As Dr. Rogers points out, this ruling must cause a very great surprise to those concerned in workhouse administration, as it declares illegal a practice which has gone unchallenged for upwards of forty years at least. But this particular paragraph, at any rate, is not in accordance with the Poor-law Amendment Act of 1867, 30 & 31 Vict., sec. 22 of which states: "When there shall be in any workhouse a poor person suffering from mental disease, or from bodily diseases of an infectious or contagious character, and the medical officer of such workhouse shall, upon examination, report in writing that such person is not in a proper state to leave the workhouse with-

out danger to himself or others, the guardians may direct the master to detain such person therein, or, if the guardians be not sitting, the master of the workhouse may, until the next meeting of the guardians, detain him therein, and *such person shall not be discharged from such workhouse until the medical officer shall in writing certify that such discharge may take place;* provided, however, that this enactment shall not prevent the removal of a lunatic to a lunatic asylum when such removal is otherwise required by law, nor the removal of any poor person after the parent or next of kin of such person shall have given to the guardians such an undertaking as they shall deem satisfactory to provide for the removal, charge, and maintenance of such person with due care and attention while the malady continues."

It is the practice at the Stoke-on-Trent Union Workhouse, where I am medical officer, for certificates to be signed by myself, the master, and the clerk to the guardians, when it is thought necessary to detain any person suffering from mental or infectious disease, and I have on more than one occasion thus detained patients convalescing from scarlet fever and cases of delirium tremens. I enclose our form of certificate, which is drawn up in strict accordance with the Act of Parliament.

I am, Sir, yours obediently,

Stoke-on-Trent, March 30th, 1885. J. G. UVEDALE WEST.

THE HISTORY OF THE USE OF IPECACUANHA IN DYSENTERY.

To the Editor of THE LANCET.

SIR,—Dr. Macpherson's paper on the above subject, read at the meeting of the Medical Society on March 9th, was one of great interest. It would appear, however, that it was left to Sir Joseph Fayrer to recall the fact that it was to Mr. Docker we owed the introduction of the remedy into the practice of the British army and the reduction of its employment to a system. Sir Joseph Fayrer was right in thus giving honour to whom honour is due; for, although something may be credited to improved sanitation, &c., there is no doubt that the great decrease in the mortality from dysentery in India in late years is due to the employment of the system of treatment introduced by Surgeon-Major Docker.

Having treated a large number of cases of dysentery with ipecacuanha, in large doses, during my service in Ceylon, India, and British Burmah, I can bear testimony to its great efficacy in acute cases, a few twenty-grain doses bringing the disease promptly to a termination, when treated at an early period, as stated by Sir Joseph Fayrer. I can also bear out Dr. Cullimore's belief that "in dysentery associated with hepatic disease ipecacuanha, in large doses, is not well borne." Dysentery is frequently found associated with, or dependent on, hepatic congestion. My latest experience of the treatment of such cases was given in a paper in the *Indian Medical Gazette* of July 1st, 1881; and as the passage bearing on the treatment of this complication is short, and the subject one of much interest, I beg leave to quote it:—"When dysentery is present, complicating the hepatic congestion, I have found the treatment suggested at page 52 of my book successful—viz., a mixed treatment of alternately giving ipecacuanha (twenty to thirty grains) and chloride of ammonium until the relief of the dysentery, or a full midday dose of ipecacuanha, or the latter in enemata should there be fear of vomiting, with morning and evening doses of the chloride, or in some cases a midday dose of the chloride may be preferable, and morning and evening doses of the ipecacuanha, until the dysentery is checked. In such cases the patient, if asked, will express himself as receiving great relief from pain by the exhibition of the chloride; and, if so, it may be well to give it more frequently than here recommended."—I am, Sir, yours, &c.,

WM. STEWART, M.D.,
Surgeon-General, A.M.D. (retired).

Mount Pleasant, Lymington, March 23rd, 1885.

AN anonymous donor has intimated to the Committee of the Sheffield Hospital and Dispensary his desire to endow a bed in the institution, in memory of the late General Gordon, on condition that it shall be known for ever as the "Gordon Bed." The endowment is thirty guineas a year, which the donor will pay for some time, and then invest capital with trustees sufficient to raise the amount annually required in perpetuity.

THE GORDON MEMORIAL HOSPITAL.

(From a Correspondent.)

THE choice of Port Said for the proposed establishment of a Gordon Memorial Hospital appears to be adversely commented on by professional and public opinion in Egypt. It is strongly urged that by far the most suitable place is Alexandria. It is the seaport of Egypt, the centre of commerce, and has a population of nearly 200,000.

Port Said is an outlandish insanitary little town, with only 12,000 people, of whom about six families are English. There is no highway to it from any part of Egypt except from Suez by the Canal, and ships passing through the Canal do not stop at Port Said. Nor is there any railway communication with it, so that a hospital there could benefit only an odd seaman landed from a passing vessel, or, perchance, a stray traveller.

In Alexandria, on the other hand, with its extensive shipping, as the import and the export city of Egypt, a large number of British seamen every year are landed for resident treatment in a hospital. For this they have to depend on foreign institutions, and are attended by nurses that do not always speak their language. English residents, also, in the towns and villages of Egypt, that have no real home where they can be attended to during sickness, go to hospital in Alexandria as the commercial centre, and could not go to Port Said for want of railway communication.

In Alexandria the English residents contribute most liberally to a foreign hospital. In it hundreds of merchant seamen, many officers and men of the British Army and Navy, and Englishmen without home comforts, are treated by the English doctor, who is one of the visiting surgeons. In the same hospital, and by the same doctor, 200 or 300 Egyptians are treated annually as in-patients, besides some 20,000 out-patients. This success is almost entirely due to the ability and energy of the English doctor. Natives (Egyptians, Bedouins, and Soudanese) flock from far and near, attracted by the reputation that English surgery has won in his hands; and while they gravitate to a centre like Alexandria, with a surgical fame already declared, they never would go to Port Said, where the essentials of success do not exist, and where a fine institution, after an ineffectual flicker, would soon dwindle down into a fourth- or fifth-rate cottage hospital.

The success in attracting natives is a most important point, for it must be remembered that Gordon, to whose beloved and honoured memory a hospital is to be erected in Egypt, was, above all things, catholic, and gave his life for Mussulmans.

It is to be hoped that this matter will receive the anxious consideration of the Memorial Committee, if they desire an institution that will really honour the blameless and heroic life of General Gordon, and that will be a credit to its founders.

NORTHERN COUNTIES NOTES.

(From our own Correspondent.)

DR. DALLINGER IN NEWCASTLE.

DR. DALLINGER delivered a lecture last week in our Literary Philosophical Institute which will not be soon forgotten. The subject, I need scarcely say, was treated in a most masterly and advanced manner by the reverend lecturer. The title of his subject was "On a New Putrefactive Organism, with some Deductions concerning the Group," but the mere title gives but a faint idea of the extent of ground covered by the reverend and learned lecturer's discourse, which was of a deeply interesting character, and well illustrated by the oxyhydrogen lantern. He showed certain nomads that he had discovered by a powerful microscopic lens, rectified by the modern employment of various essential oils as corrective media of refractive errors. He dwelt principally on septic organisms, and went fully into the source and life of these nomads, how they were produced in water where animal matter was

decomposed, and by such decomposed animal matter became reproduced into a new form of life. He urged upon biologists of the district the study of the bacteria, so that the various forms might be followed out, and the fullest information on the subject obtained, which, he said, was of the greatest importance to the human race.

THE FLEUSS APPARATUS.

The local papers are much taken up with letters and inquiries about the Fleuss apparatus. It is felt that if such had been in readiness after the explosion at Usworth the lamentable loss of life by the intrepid explorers might have been avoided, and possibly lives in the future rescued by its adoption. It has been sufficiently shown that the Fleuss apparatus enables its wearer to remain under water or in an unrespirable atmosphere for as long as an hour and twenty minutes. The Fleuss apparatus may be in its essentials thus described. It consists of a mask or mouth-piece, a knapsack, and an elastic bag or air reservoir. The mask fits tightly over the eyes, mouth, and nose, and is held in position by means of straps fastened at the back of the head. The knapsack comprises the gas chamber and the alkali chamber. The gas chamber is a strong cylinder made of sheet copper, 12 in. long and 8 in. diameter, and will contain four cubic feet of oxygen gas at a pressure of 58 lb. per square inch. The alkali chamber is contained in a tin plate case, and is made of vulcanite 12 in. high, 12 in. wide, and 6 in. deep, divided vertically by diaphrams so disposed as to cause the exhaled air to pass through the caustic alkali twice before it is delivered into the fresh air reservoir deprived of all the carbonic acid gas, and the greater part of the moisture or aqueous vapour of the breath. The fresh air reservoir is made of vulcanised indiarubber, which admits of a pulsating movement corresponding to the breathing of the wearer. It is worn on the front of the body extending over the chest and stomach. A flexible inhaling tube is carried over one shoulder and connected to the air reservoir, and the flexible exhaling tube is carried over the other shoulder, and connected to the decarbonating or alkali chamber. The exhaled air, after passing through the alkali chamber, flows into the air reservoir, on the point of entering which it receives the required supply of oxygen, which is regulated by a small valve under the control of the wearer. The apparatus is easily carried, and has the great advantage, besides its efficiency, of leaving the limbs of the wearer free. In an able article in the *Newcastle Daily Chronicle* the moral effect of having the apparatus in readiness is pointed out, and it is believed "that a couple of the apparatus would be of more value than a score of willing explorers—in the event of a colliery explosion—with the courage, but without the means, to successfully combat the insidious effect of the after-damp."

Dr. O'Hanlon, the medical officer of the Spennymoor Local Board District, in his report, points out with regret that the use of opium is increasing in the district, and especially amongst the female population. This is much to be regretted, as the habit could not—up to late years at all events—be considered as established among our northern mining population.

Newcastle-upon-Tyne, March 24th.

EDINBURGH.

(From our own Correspondent.)

CLOSE OF THE WINTER SESSION.

THE winter session of the Edinburgh Medical School came to a close on Friday, the 27th ult. There was the usual interest displayed in the summing up of the work of the session by the various lecturers, and the distribution of medals and prizes to successful competitors; although, judging by the small attendance at one or two of the classes, it appeared that many students had already made their escape from college trammels to the enjoyment of a well-earned holiday. This did not interfere, however, with the lively interest displayed in the closing lecture of the class of Clinical Medicine, delivered by Professor Maclagan; for it was widely known that this was to be a valedictory address on his retirement from the chair. Long before the appointed hour the lecture theatre was crowded with students; there was also a large representation of the teachers in the Edinburgh Medical School, many of whom, now occupying important posts of responsibility, had studied under the veteran and genial professor, whom they were now assembled to honour. Professor Maclagan's entrance, supported by his colleagues of the clinical chair, was greeted with a most enthusiastic demonstration of esteem, which was warmly reiterated from time to time as some telling point, some apt illustration or classical quotation, marked the phases of his most interesting address. In a few comprehensive sentences Professor Maclagan reviewed the work done during the session, so far at least as the lectures were concerned, dealing shortly with each system of the bodily mechanism and its disorders, and pointing out the significance of each in the economy of general medicine. In the branch to which he had drawn attention specially—that of diseases of the skin—there had been no lack of interesting cases, and he congratulated the students upon the opportunity which had been afforded them of studying some of the rarer forms—as, for instance, true leprosy. Passing then to the subject of his retirement, Professor Maclagan explained that it had been for some time in contemplation, owing to the completion of the new Public Health Laboratories, to the development of which he was anxious to devote his time and energies, but that at the request of his colleagues it had been postponed until the present time. Speaking of the charm of hospital work both to the scientific physician and to the well-wisher of his fellows, he alluded feelingly to the regret which he experienced in parting from surroundings that had afforded him so many opportunities of pleasurable interest and of usefulness to others, and testified to the warm feeling of personal gratification with which he looked back upon the cordial relations which had always existed between himself and his fellow-workers, be they teachers or students. In dealing with the many phases of hospital work, he drew attention specially to the importance of children's diseases, and of the fevers, for the study of both of which increased facilities are to be provided; and, in meeting the objections which have been urged against the study of the latter, he held strongly that those whose natural bent had led them to encounter the dangers of a medical career should not flinch before an additional risk, by avoiding which they could not enter fully equipped upon the practice of their profession, and that, even here, that Providence under whose care they had prospered so far would still be their protection. Professor Maclagan then took leave of the class over which he has presided so long, his adieux receiving the most enthusiastic response from the students; and there was not one amongst them, as they rose *en masse* and waved a last farewell, but would carry away with him a kindly feeling towards the "old man eloquent," whose well-weighed words had taught him many a useful lesson, and whose gentleness and courtesy had inspired him with feelings of the deepest respect.

A WISE SCHOOL BOARD ELECTION.

The city of Edinburgh is to be congratulated upon the return of an able representative of the medical profession as a member of its newly-elected School Board. The subject of Over-pressure in Board Schools is such a burning question at the present juncture that a School Board which counts a medical man upon its roll will be viewed with much less suspicion by the parents of the oppressed infants than where this is not the case. Although returned as a "ratepayer's candidate," Dr. Russell will doubtless not feel bound to advocate that most fertile source of over-pressure, a minimising of the teachers' emoluments, that makes the straining after large grants essential to their bare existence.

DINNER TO DR. ARTHUR THOMSON.

Dr. Arthur Thomson, the newly chosen lecturer on Human Anatomy in the University of Oxford, was entertained at a congratulatory dinner by the University Assistants' Club, at the Waterloo Hotel on March 27th. Dr. Murdoch Brown occupied the chair, and amongst the guests present were Dr. Thomson, senior, Professor Turner, and Professor T. R. Fraser, Dean of the Faculty of Medicine. After the loyal and patriotic toasts had been given, the chairman proposed "The Health and Prosperity of Dr. Thomson," and paid a warm tribute to the talents as well as to the *bonhomie* which had placed him so high in the esteem of his colleagues. Dr. Thomson responded in an amusing speech. In proposing "The Assistants' Club," Professor Fraser alluded to the importance of a University being distinguished by achievements which extend the area of science as well as by the

completeness of its didactic functions, and whilst deprecating the employment of large sums for the endowment of bursaries, which reward their holders for merely doing their duty, he strongly urged that such sums should rather be devoted to defraying the expenses of scientific research, which has been largely crippled through lack of funds amongst those who might otherwise have undertaken such work with the very best results.

Dr. Arthur Thomson is succeeded in his post of Senior Demonstrator of Anatomy by Mr. David Hepburn, M.B., C.M., who has been for three years upon the staff of demonstrators.

PARIS.

(From our Paris Correspondent.)

THE DIVULGENCE OF PROFESSIONAL SECRETS.

DR. WATELET, who was fined 100 francs for having divulged a "professional secret" under circumstances referred to in my letter of March 21st, has protested by a letter in a morning paper against the judgment of the Court by refusing to sign a bulletin, a printed form which every medical man receives from the Prefecture of the Seine, and which he is required to fill up on the death of a patient. The bulletin contains as headings: name of the principal disease, final accidents, cause of death, duration of the malady, &c. Dr. Watelet appears to find this demand inconsistent with the charge brought against him, and consequently returned the bulletin unfilled to the Prefect. I am afraid, however, that he will again render himself amenable, as the name and address of the patient are written on a slip of paper which is detached from the body of the bulletin before the latter is sent back to the office of the Prefecture. As I have already observed, the position of a medical man in his relations to society is peculiarly difficult and delicate, for the construction that may be put on the article in question (378 of the French Penal Code) is so elastic that a medical man is never safe, as he may at any moment unwittingly commit himself, as in the case of Dr. Watelet. A striking example of this has just happened to another medical man in Paris. A physician, who was also a pharmacien, but who practised only in the latter capacity, lately died. Dr. Constantin Paul, in announcing the event at a meeting of the Société de Thérapeutique, of which the deceased gentleman was a member, stated that death was caused by tubercular meningitis, of which he had an attack ten years previously. The Insurance Company in which the deceased had insured his life for 200,000 francs, or £8000, having taken note of this circumstance, has refused to pay the widow, on the grounds that her husband's life was insured subsequent to the attack he had ten years before, he being at the time the subject of a fatal malady which eventually carried him off. The case, which is interesting from more than one point of view, is pending, and it is said that if the Insurance Company should persist in their refusal, Dr. Constantin Paul will be prosecuted for divulging a professional secret. Examples of this kind are daily to be met with, for we see in the medical and lay papers full descriptions of maladies of persons of note ante mortem and post mortem. At this very moment the nature of the malady from which General Grant is suffering is being publicly discussed on both sides of the Atlantic, and so was that of General Garfield and M. Gambetta, and yet no one ever dreamt of prosecuting the authors of the published articles.

THE GODARD PRIZE.

The Société de Biologie of Paris has awarded the Prix Godard (1884) to Dr. E. Leblond, for his work on the physiological and therapeutic action of caffeine.

Another election of a corresponding member of the section for Medicine and Surgery of the Paris Academy of Science, took place last week. Sir James Paget, who was elected, received thirty-eight votes, against two for Sir Joseph Lister, and one for Dr. Leudet, of Rouen. Dr. Panum, of Copenhagen, was also a candidate.

Paris, March 31st.

THE ASSOCIATION OF PUBLIC SANITARY INSPECTORS.—At the next monthly meeting of this Association, to be held April 4th (this day), at 1, Adam-street, Adelphi, at 6 P.M., an address on "Sanitation" will be delivered by Dr. B. W Richardson.

VIENNA.

(From our own Correspondent.)

GASTRO-ENTEROSTOMY.

IN removing a carcinoma of the pylorus, if too much of the stomach have to be included in the excision, the sutures—especially if of catgut—between the thick gastric wall and the thin duodenum usually relax in consequence of the great tension; for cases in which the stomach cannot be united with the duodenum, Dr. Woelfler has employed gastro-enterostomy in order to prolong the life of the patient. The stomach is united with the coils of the small intestine above the carcinoma, so that the food proceeds direct into the small intestine, eluding the pylorus and the duodenum. The method is only a palliative one, its object being to avert stenosis, as the carcinomatous masses remain behind. Professor Billroth has modified the method in the following manner. He operates like Woelfler, then he excises the stomach, lifts up the carcinoma, unites the viscus with the small intestine, loosens the carcinoma, and finally cuts it off, so that the food proceeds direct into the small intestine, and the duodenum is, so to say, an enormously lengthened ductus choledochus. A few weeks ago Professor Billroth operated in this way on a decrepit patient, who recovered satisfactorily.

DIAGNOSIS OF CARCINOMA.

Mr. E. Freund, a medical student, has described a method of diagnosing carcinoma with very few chemical aids in every stage of its development. He says there is in the blood of carcinomatous individuals a reducible substance, which he supposes to be sugar; and the blood of sarcomatous individuals contains an unusual amount of peptone. In cases of carcinoma diabetes was excluded, as was leukæmia in cases of sarcoma. In both diseases only a very small quantity of blood should be examined. In sixty-two cases of carcinoma, after the albuminous products had been removed with sesquichloride of iron and nitric acid, there was found in 0·3 cubic centimetre of blood a substance which distinctly reduced Fehling's solution. In eight cases the blood had to be heated for a few minutes with dilute muriatic acid, and glycogen, as such, could then be proved. After extirpation the sugar in the blood disappeared; in one case only it persisted, in which relapse took place. In fifteen cases of sarcoma, after the removal of the albuminous contents, peptone could distinctly be found.

TRANSFORMATION OF PUTREFACTIVE BACTERIA.

Professor Stricker recently communicated to the I. a. R. Society of Physicians the information that Professor Spina had succeeded in transforming putrefactive bacteria in the course of two days, and that they show the same behaviour towards methyl-violet as tubercle bacilli. Professor Stricker and Dr. Amrus have repeated these experiments, which corroborate Professor Spina's statements.

THE GENERAL EFFECT OF COCAINE.

In a lecture delivered recently Dr. S. Frend described some experiments he had made to illustrate the stimulating and restorative power exerted by the muriate of cocaine. The exhilarating effect of the ingestion of from 0·05 to 0·10 gramme of the drug lasts four or five hours, and disappears by degrees without being followed by depression. This effect of cocaine can be tested by the dynamometer. Under the influence of 0·10 gramme of cocaine an increase of power of pressure of the right hand of 2 to 4 kilogrammes, and of that of both hands of 3 to 6 kilogrammes, has been registered. This effect ensues shortly after the taking of the drug, and is best shown if it is taken while the system is in a condition of great depression. The daily fluctuation of the muscular strength which takes place in correspondence with the daily fluctuation of the bodily temperature, as shown by Dr. Max Bruch, is also to be taken into account in studying the effect of cocaine on the motor power.

Vienna, March 19th.

MEDICAL NOTES IN PARLIAMENT.

The Insane Poor.

IN the House of Commons on the 26th ult., Sir Charles Dilke, in reply to Mr. W. Corbet, stated that the return of poor rates and pauperism just issued does not give the total number of insane persons maintained at the public

expense. The numbers given in that return are of the pauper lunatics maintained by the guardians at the cost of the poor rates, and do not include the insane who are maintained by the counties and boroughs at the cost of the county and borough rates. The return which was prepared by the Commissioners in Lunacy and presented to the House in June, 1883, contains, so far as the Board are aware, the fullest information available on this subject.

Lunatic Asylums in Ireland.

On the 30th ult., in reply to Mr. A. O'Connor, Mr. Campbell-Bannerman said that there has not been time to ascertain the exact present condition of affairs in each lunatic asylum in Ireland, but he believed there is no doubt that in some asylums the number of patients is in excess of the nominal accommodation, although, taking the country as a whole, there is more accommodation than is actually required. The Lord Lieutenant gives immediate and full attention to any representations made to him on this subject. Several asylums have already been extended, and extensions are being or are about to be effected in others.

Sixpenny Telegrams.

Mr. Shaw-Lefevre stated that it has been decided that the new tariff shall come into force on Aug. 1st next.

Small-pox and Vaccination.

On the 31st ult., Mr. G. Russell stated, in reply to Mr. Hopwood, that the Local Government Board have no reason to doubt that the statement in the pamphlet entitled "Facts concerning Vaccination," sanctioned by his department, that "none of the nurses at any of the London small-pox hospitals who have been duly revaccinated before entering on their duties have ever caught small-pox" is substantially correct, although it might have been more guardedly expressed. From the report of the medical superintendent of the Fulham Hospital in March, 1882, it appeared that at Fulham 42 out of a staff of 295 had had small-pox, at Stockwell 16 out of 340, and at Deptford 20 out of 265.

Obituary.

REES HOPKINS, L.R.C.P., M.R.C.S.

MR. HOPKINS of Pontypridd, whose death occurred, in the forty-first year of his age, on the 1st ult., was born near Llantrissant. He commenced life as a veterinary surgeon at Pontypridd, and this vocation he pursued for some years with marked success. He afterwards commenced a course of professional study at the London Hospital, and in 1872 obtained the diplomas of Member of the Royal College of Surgeons and Licentiate of the Royal College of Physicians. He was medical officer to the Pontypridd Board of Health and the Rural Sanitary Authority, and held several other public appointments.

Medical News.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—At examinations held on March 23rd and following days, the undermentioned passed in Anatomy, Physiology, and Materia Medica:—

J. A. Coen, A. R. S. Craig, J. Duncan, J. D. O'D. Egan, R. Elliott, R. W. Hamilton, J. C. Hines, A. M. Hunt, E. B. Kennedy, A. D. Macleod, A. E. Murphy, V. Nash, H. F. C. Pilcher, J. A. Scully, A. F. Smith, P. Stephenson, W. Stritch, W. Swan, W. E. Waters, J. A. Whitty, D. T. Wylie.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on the 19th ult.:—

Mumford, Alfred Alexander, Manchester School of Medicine.

The following passed on the 26th ult.:—

Caskey, John Shaw, London Hospital.
Rhys, Watkin Llewellyn, Guy's Hospital.
Sutherland, John Russell, Glasgow University.
Walker, Thomas Greaves, London Hospital.

DR. SMYTH is a candidate for the vacant coronership of North Kildare, and it is generally expected that he will be returned.

A SUGGESTION has been offered that the "Great Eastern" steamship should be utilised as a floating hospital at Suakim.

THE salary of Dr. Cowen, medical officer of the Shadwell-road Workhouse, Islington Union, has been increased from £50 to £80 per annum.

DR. G. P. O'FARRELL of Boyle, and Dr. John Todd of Newtown Stewart, have been appointed medical inspectors under the Local Government Board, Ireland.

SPANISH UNIVERSITIES.—The number of students who graduated in the Spanish Universities last year was 3598, including 94 doctors, in various faculties, 535 licentiates in law, and 703 licentiates in medicine and pharmacy.

THE MANCHESTER HOSPITAL SUNDAY AND SATURDAY FUNDS.—The amount paid into the bank up to the present time to the credit of Hospital Sunday Fund is £4745, and on account of Hospital Saturday, £3063, making a total of £7808.

ROYAL COLLEGE OF SURGEONS.—Owing to the unprecedentedly large number of candidates for the "primary," or anatomical and physiological examination for the diploma of membership, amounting to upwards of 400, the library and museum of the College will be closed on Tuesday and Wednesday, the 7th and 8th inst.

ON Tuesday last, Mr. Alderman Walmsley, M.R.C.S., of Salford, presided at a meeting of medical practitioners of Manchester, held at the old town hall, for the purpose of taking steps to found a new Medical Society in the city. A resolution was carried pledging the meeting to promote the object in view, if possible in harmony with the existing Medical Society.

ELECTRIC LIGHT FOR HOSPITAL SHIPS.—The Metropolitan Asylums Board has contracted with a Manchester firm for lighting by means of electricity the hospital ships and buildings at Long Reach. The plant will be in duplicate throughout, and a considerable saving will be effected in the annual cost of lighting by the substitution of electricity for oil.

INFECTIOUS DISEASE HOSPITAL AT BIRKENHEAD.—On the afternoon of the 31st ult., the new ward which has been added to the hospital for the treatment of infectious diseases at the back of the Borough Hospital, Birkenhead, was formally opened by Mr. Frederick Smith, chairman of the Health Committee of the Corporation. The new ward has cost about £600.

UNIVERSITY COLLEGE HOSPITAL.—The annual general meeting of the donors, governors, and subscribers of this institution was held on the 31st ult. The number of in-patients treated during the past year was 3152, as against 2849 in 1883, and of out-patients 33,743, as compared with 24,187. The annual subscriptions amounted to £2047, and the total reliable income to a little over £6000, whilst the necessary annual expenditure reaches £19,000.

THE ROYAL COMMISSION ON THE HOUSING OF THE POOR.—It is stated that arrangements have now been completed for the visit of the Royal Commission on the Housing of the Poor to Scotland. The visit is not one of inspection, but simply for the taking of evidence. The Commission will sit this day (Saturday), Monday, Tuesday, and Wednesday, and possibly for a few days longer. The Commission will probably visit Dublin during the Whitsuntide recess.

LOWER THAMES VALLEY DRAINAGE.—The Local Government Board have addressed to the clerks of several constituent authorities comprised in the Lower Thames Valley Main Sewerage Board a letter, dated March 26th, stating the decision of the Local Government Board, after careful consideration of the report of their inspector (Mr. J. Thornhill Harrison, C.E.), on the recent inquiry held by him as to the proposal that certain of the districts now included in the Lower Thames Valley Main Sewerage Board should be separated from that district. The letter deals first with the application of the Heston and Isleworth Local Board, and states that the Board have determined, if the Local Board, after further consideration of the matter desire it, to issue a provisional order separating the districts of Heston and Isleworth from the main sewerage district. With regard to the separation of other districts as to which opposition was made, the Board are not prepared to issue a pro-

visional order for the dissolution of the main sewerage district, or the separation of any constituent portion, with the exception of the two above-named districts. The letter also states that the Local Government Board are of opinion that before the Joint Board arrive at a final decision with regard to Sir J. Bazalgette's scheme (which, in the event of its adoption, should be carefully revised and perfected before it is submitted to the Board) they should fully consider whether it might not be practicable to adopt some other scheme which would provide for the disposal of the sewage outside the district of the Joint Board, and which would entail less cost.

PRIZE SUBJECTS IN BARCELONA.—The following subjects have been chosen by the Royal Academy of Medicine and Surgery of Barcelona, for the annual prize dissertations this year:—1. Description of an Epidemic in Spain. 2. Best Method of preparing Cocaine. 3. Medical Topography of some District in Spain. 4. History and Present State of Hygienic Education in Spain.

PRESENTATION.—On January 17th last a testimonial of 1000 rupees, which had been subscribed by the tea-planters and other residents of Kursung and the Terai (Bengal), with an address, was presented to Dr. A. B. Morris, who for the last ten years has practised as "planters' doctor" in that place, but the state of whose health is such that a change to a colder climate is considered necessary. Dr. Morris has gone to Auckland, New Zealand, where he hopes to found a practice.

OXFORD WATER-SUPPLY.—The informal committee appointed in June last to investigate this subject has submitted several samples to the analysis of Dr. Frankland and Dr. Tidy. Their reports were on the whole not unfavourable, but the water company has made the proposal to draw its supply from the Thames at King's Weir, some three miles above Oxford; and this plan, according to Professor Prestwich, seems to offer, apart from the question of cost, the best and most abundant supply of river water. He thinks "that with water drawn from this source, with proper settling reservoirs, and with the efficient filtering reservoirs now in course of construction, the water-supply of Oxford would in the future be as good and as abundant as could be ordinarily obtained from a river source, and that there would be little risk of a recurrence of those conditions to which there has been at times so much reason to object."

ROYAL COLLEGE OF SURGEONS IN IRELAND.—MEDICAL SCHOOL.—The following prizes have been awarded at the termination of the winter session 1884-85:—Descriptive Anatomy: Senior Medal, Mr. Powell; First Class Certificates, Messrs. Bewley, Cummings, Strangman, and Nelson; Second Class Certificates, Messrs. Barter, Beamish, Ferguson, and Gourley. Practical Anatomy: Senior Medal, J. Lagan; First Class Certificates, Messrs. Matthews, Fenton, Hickey, O'Donohoe, Reid, Rossiter, Strangman, C. Woodwright, W. Woodwright, and Cook. Descriptive Anatomy: Junior Medals, Messrs. Gore and Johnston; First Class Certificates, Messrs. Banks, Ewing, Summers, and Jennings; Second Class Certificates, Messrs. Bruland, Lyons, Green, Molloy, McMunn, Clarke, Stewart, Harding, Finnegan, and Lee. Practical Anatomy: Junior Medals, Messrs. Byrne and Gourley; First Class Certificates, Messrs. Gore, Johnston, Marwood, Beamish, Cummings, O'Rafferty, Nelson, Lyons, Hanks, Barter, and Cremin.

SOCIETY FOR THE STUDY AND CURE OF INEBRIETY.—The annual meeting of this Society will be held on Tuesday afternoon, the 7th inst., in the rooms of the Medical Society, Chandos-street, W., at four o'clock, when, after an address by the President, Dr. Norman Kerr, a paper will be read by Dr. T. D. Crother, Hartford, on "The Incipient Stages of Inebriety." The following have been elected officers for the year:—President: Dr. Norman Kerr. Vice-presidents: Sirs G. Burrows, W. Miller, G. H. Porter, E. Saunders, and Spencer Wells; Professors B. Foster, Macalister, McKendrick, and Maclagan; Surgeon-General Logie; Drs. J. S. Bristowe, Cameron, M.P., W. B. Carpenter, Farquharson, M.P., C. J. Hare, Geo. Harley, Wm. Ogle, B. W. Richardson, W. H. Walshe, and C. J. Wheelhouse. Treasurer: Dr. Drysdale. Hon. Secretary: Dr. Sturrock. Council: Surgeon-General C. R. Francis; Surgeons-Major Evatt and G. K. Roole; Drs. Balding, Barnes, Beverley, Bridgewater, Alfred Carpenter, J. Eastwood, Fitch, Gibson, Haynes, Hicks, Hurry, Lindsay, Reddie, Robertson, and Thomas.

THE PREMONITORY SYMPTOMS OF INSANITY.—Dr. Henry Sutherland read a paper on the above subject at Brighton on March 24th, at the meeting of the South-Eastern Branch of the British Medical Association. In this paper it was shown by cases which had been for a long time under observation, that various eccentric acts sometimes occur many (seven, twelve, fourteen) years before the actual outbreak of insanity takes place. Hence the necessity for early prophylactic treatment in cases where the insane temperament is strongly marked. The mental and bodily symptoms usually noticed in the early stages, and the indications for various drugs, were also enumerated. The importance of appropriate moral and hygienic treatment was also insisted on. By attention to these details a second attack was often averted, and if insanity had actually seized the patient, the duration of the disorder was shorter and the outlook more hopeful than would have been the case had treatment been neglected.

Medical Appointments.

Intimations for this column must be sent DIRECT *to the Office of* THE LANCET *before 9 o'clock on Thursday Morning at the latest.*

DAVIES, SIDNEY, M.A., M.B.Oxon., M.R.C.S. (of Cairo), has been appointed Médecin en Chef de la Police et de la Gendarmerie Egyptienne.

DENDY, WALTER C., F.R.C.S.Eng., L.R.C.P., has been appointed Assistant Medical Officer to the Workhouse of Birmingham Parish, vice Williams, resigned.

FRASER, JAMES A., L.R.C.P.Lond., M.R.C.S., has been appointed Medical Officer to the Workhouse of the Romford Union, vice Davey, resigned.

GARNER, JOHN EDWARD, M.D., C.M.Aber., has been reappointed Medical Officer for the First District of the Preston Union.

MCCRACKEN, JOHN, M.B., C.M.Glas., has been appointed Medical Officer for the Coxwold District of the Easingwold Union, vice Steven, resigned.

MATHESON, FARQUHAR, M.B., C.M.Aber., has been appointed Honorary Aurist to the Royal Caledonian Asylum.

MURRAY, H. MONTAGUE, M.D., M.R.C.P., has been elected Honorary Physician to the Foundling Hospital, vice Dr. A. Tweedie, deceased.

SMITH, HENRY LIONEL, L.K.Q.C.P.I., L.R.C.S.I., has been appointed Medical Officer for the Overbury District of the Tewkesbury Union, vice Heslop, resigned.

Births, Marriages, and Deaths.

BIRTHS.

BUZZARD.—On the 26th ult., at Grosvenor-street, W., the wife of Thomas Buzzard, M.D., of a daughter.

FLECK.—On the 27th ult., at Frogmoor Lodge, High Wycombe, Bucks, the wife of William Fleck, M.D., of a daughter.

HETT.—On the 27th ult., at Inverness-terrace, the wife of Geoffrey Hett, M.D., of a son.

HOYSTED.—On the 31st ult., at 17, The Avenue, Colchester, the wife of John Hoysted, Surgeon, Medical Staff, of a daughter.

PEDLEY.—On the 22nd ult., at 25, Burnley-road, Stockwell, S.W., the wife of R. Denison Pedley, L.D.S., M.R.C.S.Eng., of a daughter.

STAMPER.—On the 28th ult., at Pembroke Dock, the wife of J. Fenton Stamper, M.D., of a son.

MARRIAGES.

HARRISSON—FREEBORN.—On the 25th ult., at St. Mark's, Kennington, John W. Harrisson, M.B., of The Friars, Sandwich, to Charlotte E. Freeborn, second daughter of the late Dr. R. Fernandez Freeborn, of Oxford.

WHITELEGGE—HORSLEY.—On the 23rd ult., at St. Margaret's, Westminster, Benjamin Arthur Whitelegge, M.D., to Fanny Marian, elder daughter of J. C. Horsley, Esq., R.A., of High-row, Kensington.

DEATHS.

BRIDGMAN.—On the 19th ult., at Berkeley, Gloucestershire, suddenly, Isaac Thomas Bridgman, Surgeon, aged 43.

HASTINGS.—On the 24th ult., at Mansfield-street, Portland-place, Cecil William Hastings, M.D., in his 50th year.

PEARSE.—On the 28th ult., at Godfrey House, Cheltenham, George Pearse, M.D., late Director-General, Madras Medical Department, and Honorary Physician to Her Majesty, aged 88.

STEIL.—On the 25th ult., suddenly, at 110, Shepherd's-bush-road, West Kensington-park, W., George Robert Steil, L.R.C.P., M.R.C.S., youngest son of James Steil, Esq., R.N., in his 35th year.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

Monday, April 6.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10.30 A.M., and each day at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.
ST. MARK'S HOSPITAL.—Operations, 2 P.M., and on Tuesdays at the same hour.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
ROYAL INSTITUTION.—5 P.M. General Monthly Meeting.

Tuesday, April 7.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Mondays at 1.30 and Thursdays at 2 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 2.30 P.M.; Saturday, 2.30 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.
PATHOLOGICAL SOCIETY OF LONDON.—8.30 P.M. Dr. Dickinson: Violet Pigment discharged from the Mouth.—Dr. Carrington: Atrophy of the Liver.—Dr. Charlewood Turner: (1) Rupture of the Aorta; (2) Ulceration of Aortic Valves and Aorta (card); (3) Aneurysm of Splenic Artery (card).—Dr. Parry Price: Deposit of Bone in Testis and Epididymis.—Dr. Colcott Fox: Thrombosis of the Vena Cava, &c.—Dr. Norman Moore: (1) Cavity in the Lung of an Infant; (2) Renal Disease in an Ox (card).—Dr. Silcock: Congenital Sarcoma of Testis.—Mr. R. W. Parker: Congenital Sarcoma of Testis (card).—Dr. Chaffey: (1) Early Sarcoma of Testis (card); (2) Congenital Malformation of the Pulmonary Veins (card); (3) Congenital Malformation of the Heart (card).—Dr. Ernest Clarke: Congenital Malformation of the Heart (card).

Wednesday, April 8.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M., and on Saturday at the same hour.—Ophthalmic Operations on Tuesdays and Thursdays at 1.30 P.M.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Skin Department: 9.30 A.M., on Tuesdays and Fridays.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M., and on Saturday at the same hour.
LONDON HOSPITAL.—Operations, 2 P.M., and on Thursday and Saturday at the same hour.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Saturday, 2 P.M. Skin Department: 1.45 P.M.; Saturday, 9.15 A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M.
KING'S COLLEGE HOSPITAL.—Operations, 3 to 4 P.M.
ROYAL MICROSCOPICAL SOCIETY.—8 P.M. Dr. C. T. Hudson: New Fioscules.—Dr. J. D. Cox: Structure of the Diatom Shell; Siliceous Films too thin to show a Broken Edge.—Mr. H. Mills: Filamentous Projections of Diatoms.—Exhibition of Nobert's Diamonds.
BRITISH GYNÆCOLOGICAL SOCIETY.—8.30 P.M. Specimens will be shown by Dr. Fancourt Barnes, Mr. Lawson Tait, Mr. Reeves, and others.—Dr. Aveling: A Case of Double Pyo-salpinx.—Mr. Lawson Tait: A Case of Pyo-salpinx.—Dr. Bantock: A Case of Hydro-salpinx.—Dr. Lamprey: A Case of Double Monstrosity.

Thursday, April 9.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Surgical Consultations, 1.30 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
NORTH-WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

Friday, April 10.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1.30 P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.
WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—8 P.M. Mr. Percy Dunn will show Calvarium from Hernia Cerebri after Trephining, in a Child; Splenic Infarct from Pyæmia; Secondary Scirrhus of Posterior Wall of Left Auricle.—Mr. C. B. Keetley: Two Cases of Osteotomy of the Hip; Radical Cure of Umbilical Hernia.—Mr. S. Benton: A Successful Case of Colotomy.—Mr. C. W. Chapman: A Case of Suppurating Cyst of the Liver (probably hydatid); recovery.—Mr. E. Noble Smith: Illustrations of some Orthopædic Cases.—Mr. T. Pickering Pick: Subcutaneous Division of Sphincter Ani.
CLINICAL SOCIETY OF LONDON.—8.30 P.M. Dr. Lewis Marshall (Nottingham): Cases of Amputation at the Hip-joint by Furneaux Jordan's Method.—Mr. Jonathan Hutchinson: Amputation at the Hip-joint in certain Desperate Cases.—Dr. Colcott Fox: Pityriasis Circine (Hovand) and Pityriasis Circiné Marginé (Vidal).—Dr. Sidney Phillips: A Case of Sporadic Cretinism (living specimen).—Mr. Struthers: A Case of Complete Paralysis of the Right Fifth Nerve.

Saturday, April 11.

KING'S COLLEGE HOSPITAL.—Operations, 1 P.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET OFFICE, April 1st, 1885.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Max. Temp. Shade.	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
Mar. 27	29·86	N.W.	46	42	...	52	42	·08	Cloudy
,, 28	30·37	N.	42	37	...	50	36	...	Hazy
,, 29	30·14	S.E.	47	41	...	51	37	...	Fine
,, 30	30·18	S.E.	46	42	...	56	41	...	Hazy
,, 31	30·31	E.	43	37	...	57	36	...	Hazy
Apl. 1	29·90	W.	45	42	...	58	40	...	Fine

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editor."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for publication or private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe, or recommend practitioners.

Local papers containing reports or news-paragraphs should be marked.

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

SPONTANEOUS EVOLUTION.

To the Editor of THE LANCET.

SIR,—The following case, which occurred at Guy's Hospital, is, I think, worth recording, as there are several points of interest in connexion with it.

C. H——, aged forty-three years, eleventh confinement. Labour commenced at 11 P.M. on the 8th. The extern was sent for, and on arrival found that the breech was presenting in the first position. Labour progressed rapidly, and the child was born alive at 11.40 P.M. It was then found that there was a second child in utero, but the presentation was not made out. At 12 P.M. (twenty minutes after the birth of the first child), the pains being absent, a drachm of the liquid extract of ergot was administered. The pains came on rapidly, and the right hand of the child was extended through the os. On this the extern sent for me. On arrival, I found that the child was born, the hand having descended still further, until both it and part of the forearm were outside the vulva. The pains now increased in severity. The right side and buttock of the child were born next, the right hand and forearm remaining outside the vulva; the head followed shortly afterwards, the left hand being extended over it. Artificial respiration was employed for about twelve minutes before the child breathed. Both were female children, the last born being exceedingly small.

In cases of spontaneous evolution like the foregoing it is extremely rare to find the child born alive. In this case several circumstances were favourable. (1) The first child had already enlarged the passages; (2) the woman had had ten children before; (3) the small size of the child. I weighed the child a month later, when it turned the scale at 3 lb. 12 oz.—Believe me, Sir, your obedient servant,

C. Y. SHUTER, M.B.,
March 16th, 1885. Resident Obstetric, Guy's Hospital.

Dr. A. Harkin (Belfast).—Our correspondent will find a full account of the subject in the Comptes Rendus de la Société de Biologie, published by M. G. Masson, 120, Boulevard St. Germain, Paris.

Kentigern will no doubt obtain the information he desires from the registrar of the College.

EFFECTS OF HANDLING DYNAMITE.

To the Editor of THE LANCET.

SIR,—I shall be glad if any information can be given how to avoid the unpleasant consequences of handling dynamite. Two officers of the Royal Engineers employed on the fortifications here have both complained of a bad headache lasting for about twenty-four hours after handling this substance, and also sore eyes. One of them made use of gloves, but a headache still resulted, apparently from the smell. I was not aware that nitro-glycerine acted through the medium of the skin or atmosphere, and no mention of this is made in Ringer's Therapeutics. I am, Sir, yours truly,

Aden, March 18th, 1885. E. COLSON, Surgeon-Major.

DR. CHANDELON'S PROCESS FOR DETECTING STRYCHNINE.

BY this method the objects to be tested are chopped up very fine, and are mixed with an equal weight of gypsum entirely freed from water. After drying, the whole is pulverised, and thoroughly boiled with 90 per cent. alcohol, to which a little tartaric acid has been added. The alcohol is removed by distillation after filtration, the residue being taken up with boiling water, filtered so as to remove all fat, compressed to 1½ to 1¾ cubic inch, and mixed with gypsum. After stiffening and pulverising, the mass is treated with chloroform in Soxhlet's apparatus. The chloroform extract is brought to ½ or 1 cubic inch, and there is added an equal volume of a saturated solution of oxalic acid in ether. The oxalate of strychnine becomes crystallised in needle-shaped forms, from which the strychnine can be isolated by ammonia. This method is said to have been successful in detecting minute quantities of strychnine, and to be likewise applicable to tests for brucine, narceine, papaverine, thebaine, aconitine, atropine, hyoscyamine, veratrine, nicotine, and coniine.

Mr. T. A. Buck, M.B.—We must refer our correspondent to some remarks on the subject in our issue of Sept. 27th, 1884.

"THE PHARMACY OF COCAINE."

To the Editor of THE LANCET.

SIR,—In an annotation on this subject in your issue of March 14th attention is drawn to a method for the preservation of solutions of cocaine by means of filtration through animal charcoal and subsequent addition of salicylic acid. I would point out to those who adopt this method the fact that animal charcoal removes alkaloid as well as impurities, and that filtration through this medium is calculated to seriously weaken the strength of cocaine solutions, especially those containing the smaller percentages of the salt. The preservation of these solutions is well effected by the use of salicylic acid alone, as recommended by Dr. Squibb of Brooklyn, employing a saturated solution of the acid in distilled water, to the extent of 50 per cent., or one-half, of the finished solution of cocaine—i.e., one-half water, and the other half solution of salicylic acid. The proportion of salicylic acid contained in the whole is then about 1 in 600, a quantity quite unobjectionable in use, but sufficient for the purposes of preservation. The alleged objection to its use on account of its extreme sensitiveness to traces of iron, and consequent difficulty in obtaining colourless solutions, we have not found realised in practice. We find no difficulty in sending out colourless solutions thus protected. The cocaine salts of our manufacture are not allowed to come in contact with iron at any stage of the process, glass and porcelain being alone employed. It was well pointed out by Mr. Symes in your issue of March 21st that an excess of acid destroys or renders latent the anæsthetic power of cocaine salts, as, so far as we are aware, this important fact had escaped record, although probably not observation. The addition of an acid to effect solution of the cocaine salt is entirely unnecessary if the neutral hydrochlorate be used. The alkaloid itself would be the most powerful, but its slight solubility (1 in about 700) almost precludes its use, although even in this high state of dilution it still has the characteristic benumbing effect on the tongue. The most important impurity in cocaine salts observed up to the present is the supposed inert alkaloid hygrine which exists in the leaves in variable proportion, and which, being considerably more soluble in water than cocaine, can be readily separated by prolonged washing and repeated reprecipitation of the cocaine, a process which also causes considerable diminution in the field of the latter, if means are not adopted for its subsequent recovery from the washings. Tests for the identification and purity of cocaine salts are greatly needed at the present time. For the first we know of no chemical tests available for the purpose. Its reactions are similar to those of other alkaloids; its anæsthetic effect on the tongue and other mucous surfaces is, however, sufficient for its identification. But this test is no guarantee of its purity; a small admixture of cocaine with other substances would produce its characteristic effect. Perhaps the most satisfactory test of purity is the amount of alkaloid precipitated by means of a solution of sodic carbonate from a weighed quantity of the cocaine salt. In the case of the neutral hydrochlorate this should amount, when moderately washed and dried until the weight is constant, to at least 89 per cent.

We are, Sir, yours faithfully,

High Cross, Tottenham, March 25th, 1885. TANNER & Co.

Mr. Hamilton Curtwright.—Would it not be better to bring the matter under the notice of the College of Surgeons?

Mr. Gem.—The report will appear in an early number.

"APPLICATION OF MIDWIFERY FORCEPS."

To the Editor of THE LANCET.

SIR,—As many letters have appeared in your journal on this subject, there is yet another method—namely, "with the patient directly on the back." This position obviates the necessity for drawing the patient over the edge of the bed, and can be more easily employed where the bedding is on the floor, as may occasionally be the case. In a manual on midwifery which has recently reached its fourth edition there is no allusion to this position. The manipulation of the superior blade is similar to the manner described by Mr. Lucas. As everybody appears to be conversant with Mr. Lucas's easy method, I would give him the satisfaction of knowing that it is new to me. I am, Sir, yours truly,

March 14th, 1885. BEAVER.

DISCOUNT IN DRUG BILLS.

A PETITION has been presented to the College of Pharmacists of Madrid, praying that any members who may be guilty of selling drugs to corporations, societies, or charitable establishments at any considerable reduction from the recognised price may be expelled. The Madrid medical journal which reports this thinks that if it is carried into effect the College will have to expel a large number of its members—in fact, nearly all those who happen to supply public institutions.

A Country Doctor.—Our correspondent seems entirely right. But we still think his case would be more complete with some personal remonstrance, preferably an interview.

M.B.Lond.—The letter has been already published in a contemporary.

FLOATING DISPENSARIES FOR FISHERMEN.

To the Editor of THE LANCET.

SIR,—Through the kindness of a gentleman much interested in the North Sea Fishing Fleets, I had an opportunity last August of spending a fortnight on board one of the mission ships belonging to the Mission to Deep Sea Fishermen. What I then witnessed has induced me to bring the subject before the medical profession, in the hope that they will lend their aid towards alleviating the sufferings which smacksmen have to undergo, owing to the inefficient supply of medicines and medical appliances available in cases of illness. During the entire year a floating population of over 12,000 men and boys are at work in the North Sea, trawling for the fish with which Billingsgate and other markets are supplied. This great fleet is divided into eight minor fleets, each under the command of an "admiral," a sailor selected for his long experience and thorough technical knowledge, who, by means of flag signals by day and rockets at night, indicates the direction in which the boats should sail, and the times for lowering and hauling up the trawls. The nature of the occupation in which these sailors are engaged is toilsome, harassing, and dangerous in the extreme. For eight weeks continuously each trawler is at work, a period of nine days being then allowed the crew to return home to recruit themselves and refit their smacks. Sailing with this fleet are some vessels which, besides engaging in trawling as the other vessels, are used as mission ships, and which also act as floating dispensaries. Being only four in number, they attach themselves to four of the minor fleets. A medicine chest (which has been pronounced by one of the sailors to be "one of the greatest blessings in the fleet") is kept on board each of these ships; but the natural want of knowledge on the part of the skippers, combined with the extreme difficulty of dispensing small doses of powerful medicines on board a small craft in heavy seas, greatly diminishes the advantage to be derived from such a provision. Under these circumstances, I propose to furnish one of the fleets with a supply of concentrated medicines, such as are found most generally useful in dispensary practice, directions being given on each bottle as to the complaints for which such medicine is to be employed. Further, to supply a number of empty graduated eight-ounce bottles, so that, the doses being marked, the use of labels (which for obvious reasons would be useless) can be dispensed with. The concentration of the medicine being uniform (one drachm to the ounce), the only dispensing necessary would be to take one of these empty bottles and a sufficiency of the concentrated mixture to fill a graduated ounce space, and then fill the bottle with water, directing the patient to take a marked dose three or four times a day, according to the urgency of the case, thus obviating the use of measure glasses, table- or dessert-spoon, or other superfluities unknown on board a trawler. After thus providing for one fleet, seven others remain in need of some such provision. I would therefore earnestly appeal to the members of the profession, in the hope that they will contribute towards this object by either becoming responsible for the supply of medicines to some of the fleets, or by sending to the Secretary of the Mission to Deep Sea Fishermen—E. J. Mather, Esq., 31, New Bridge-street, Ludgate-circus, E.C.—contributions towards providing for the expenses of such.

May I express a hope that through the columns of your journal you will aid the project by giving to it that publicity which it merits, and thus eliciting aid, as well as suggestions, as to the best manner of working the system. An early expression of the views of the profession would much oblige, as I am making arrangements for again visiting the fleet at an early date.—I am, Sir, yours faithfully,

HENRY J. PENNY, L.R.C.S., L.K. & Q.C.P.I.

Shenley, Barnet, Herts.

A TITLE FOR APOTHECARIES.

To the Editor of THE LANCET.

SIR,—Having observed your reply to "L.S.A." in last week's LANCET, in which you stated that the titles of "Doctor" and "Surgeon-Accoucheur" were, though not illegal, not "warranted" by the holders of the licence of the Apothecaries' Society, might I ask the favour of an opinion from you upon the following:—I am in the habit of describing myself, with the same qualification, as "Licentiate in Medicine.' I cannot call myself "Apothecary," as I practise with the full sanction of the law as a physician, and I think it to a certain extent immoral to describe myself as "Doctor" and "Surgeon-Accoucheur." It appears to me and my friends an excellent and honourable way out of the difficulty.

I am, Sir, your obedient servant,

March 29th, 1885. LICENSED IN MEDICINE.

*** We see no objection to the description our correspondent gives of his qualification.—ED. L.

M.D. writes: "I shall be grateful if any of my professional brethren will advise me what is best to do (educationally) with a youth, aged thirteen, not idiotic, but yet of such defective mental capacity that it would be out of the question to send him to any ordinary school. He is not more difficult to control than such cases usually are. He is the only child of a widow with very limited means."

RAPID SPONTANEOUS RESOLUTION OF A DEPRESSED FRACTURE OF THE PARIETAL BONE.

To the Editor of THE LANCET.

SIR,—The following case may prove interesting to some of your readers.

At 3 P.M. on the 4th inst. A. P——, a child one year old, was brought to me, having fallen from its nurse's arms. The mother told me that at the time of the accident the child became semi-convulsed, and livid for a few minutes, but did not lose consciousness. When I first saw it, twenty minutes after the accident, it was perfectly sensible, and apparently in its usual condition. On examination, the skin was normal; there was no bruising or swelling, but an indentation, an inch long, two-thirds of an inch broad, and one-third of an inch at its deepest part, occupied the position of the left parietal eminence. With the exception of a little tenderness on manipulation of the part, the child was in no way inconvenienced, and so little was the disturbance, and so marked the depression, that I at once put it down to a malformation previously existing, but only now discovered and attributed to the accident. The mother, however, assured me that such was not the case, and she was duly dismissed with the necessary instructions as to the treatment of the child. On the next morning I saw the child; it was quite well, and without a trace of the accident of the previous day. The mother informed me that she had noticed that by 7 P.M. on the day of the mishap the skull had resumed its normal appearance. The case appears to me to be remarkable in the following points:—1. The slightness of the shock and the rapid recovery from it, and the immunity from symptoms co-existing with such a state of affairs. 2. The situation and character of the depression; its taking place at the strongest and most thoroughly ossified part of the bone, this being completely inverted, to an apparently greater extent than it was formerly convex, and this without any evidence of detachment or crepitation. 3. The rapidity of resolution—i.e., four hours—showing the pliant nature of the bone, more especially of the inner table of it, at this age, and the force exercised by the blood pressure, and the rhythmical pulsation of the brain.

I am, Sir, yours truly,

Kettering, March 16th, 1885. JOHN GRANT, M.B., C.M. Edin.

PERMANGANATE OF POTASH IN AMENORRHŒA.

To the Editor of THE LANCET.

SIR,—I reported a case of amenorrhœa successfully treated with permanganate of potash pills in THE LANCET of Jan. 24th, 1885. Since then another case has been brought to a successful issue by the same treatment. M. C——, aged eighteen years, came under my care on March 1st. The patient was by occupation a dressmaker in Dublin, where she had been under medical care for some time; but her health did not improve, and she returned home and consulted me for the following:—Short cough; pain in the cardiac region and in the small of the back; pulse 100 and weak; tongue and gums anæmic; appetite bad; soft-blowing, systolic murmur; and amenorrhœa, that had lasted for six months. I at once ordered her a tonic of iron, strychnine, and digitalis, with plenty of nourishment, and at the end of a week, when her general health was greatly improved, I ordered permanganate of potash pills, one grain each, one pill to be taken with each meal. Six of these pills produced the desired effect, and the catamenia appeared in a regular manner four weeks afterwards. She is now taking a course of Bland's pills. The murmur has vanished, and she is going on in a most satisfactory way. I remain, Sir, faithfully yours,

CHARLES F. MURRAY, M.D.

Ashfield, Beau Pare, co. Meath, March 28th, 1885.

Northumbrianus.—The Local Government Board may, upon the application of the sanitary authority, dispense with so much of the regulation specified in its circular as requires that the medical officer of health, being duly registered, shall be qualified to practise both medicine and surgery.

"HYDROCHLORATE OF COCAINE."

To the Editor of THE LANCET.

SIR,—It matters little to your readers whether Mr. Fenwick or Mr. Abbott suggested camphor water as a menstruum in which to preserve hydrochlorate of cocaine as a solution. The credit, however, belongs to the latter (THE LANCET, Feb. 14th, p. 315). My object in writing was to bear testimony to the value of such a solution, and to caution the profession against trusting to Mr. Churchyard's assumption that a solution in distilled water which had become flocculent could be rendered as active as when freshly prepared by the treatment he mentioned. It is well known that a solution of cocaine hydrochlorate is rendered weaker by being passed through animal charcoal, and, as I have stated, the addition of acid further reduces its activity. A 4 per cent. solution which has become flocculent may still possess some activity, and this is best retained by passing it through a small piece of good filtering paper and adding a fragment of camphor to the filtrate.

I am, Sir, yours faithfully,

Liverpool, March 28th, 1885. CHARLES SYMES.

MEASLES IN GUERNSEY.

A CORRESPONDENT informs us that an epidemic of measles in Guernsey has been made the subject of a paper in the *Glasgow Medical Journal* by one of the medical men there. This paper, it is alleged, has been printed separately, and sent by its author to one of the patients of another medical man holding a high official position in the island. It is an essential part of our correspondent's communication that the epidemic was of an ordinary kind, characterised by no unusual complications calling for comment, and that the mortality was small. Our opinion is asked as to the action of the author in distributing his paper to the patients of other medical men. We think that such a use of professional writing is better avoided.

PALATABLE PREDIGESTED FOOD.

To the Editor of THE LANCET.

SIR,—In the leader upon Diet in the Febrile State in your issue of March 21st, alluding to the use of "already partially digested foods" for the purpose of avoiding the "fermentative changes from delayed intestinal digestion," you say that "unfortunately the preparations hitherto proposed for this purpose do not combine palatableness with efficiency," further expressing the opinion that an improvement in the former of the conditions named is much to be desired. Seeing what weight of authority every utterance of yours has, it were to be wished you had qualified the statement by the words "some" or "most of"; since I can bear testimony (unsolicited, I need not say, and without interest) that one firm of chemists at least has solved the problem of making an efficient article agreeable in smell and taste as well. Everyone knows how seldom in our homes and sick-rooms, at the hands of our cooks or nurses, we ever get a really good cup of coffee or cocoa; and I am quite sure that, the prejudice of a first trial once over, the almost instantly prepared cup of peptonised cocoa and milk or coffee and milk would be preferred as richer and more delicate in flavour to what we usually have placed before us. And if a preparation is really nicer to a healthy palate, efficiency being ensured, how much fitter must it be for the fastidious or perverted taste of the sick? I have for some time made use of the above preparations in typhoid fever, in tubercular affections of the abdominal organs, in acute and chronic albuminuria, and in diabetes mellitus, as well as in varying degrees of gastric irritation—in brief, in a wide range of cases where impaired digestion was only a secondary or even hardly appreciable factor, and in all with more or less benefit. In one case of diabetes, carefully watched for a month, and the urine daily examined, somewhat (I admit) to my surprise, the administration morning and evening of one breakfast-cup of the peptonised cocoa and milk did not increase the excretion of sugar; all the other conditions being as nearly as possible alike during that period, the gluten loaf not being used, and the only drugs administered being salicylic acid with a quarter of a grain of codeia.

I am, Sir, yours truly,

March 24th, 1885. F. ARNOLD LEES, M.R.C.S. &c.

*** Both cocoa and coffee undoubtedly disguise the peculiar flavour of peptonised food better than anything else; still, even thus prepared, peptonised preparations have, to our taste, in a slight degree the peculiar flavour, which to some persons is extremely unpleasant, of peptones, though in this respect they are superior to most dietetic articles of this kind.—ED. L.

M.R.C.S.—We do not think it advisable to extend to such cases further publicity. The attention of the bodies whose qualifications the offenders hold should be called to the way in which their diplomas are disparaged.

"CARBOLIC OIL A REMEDY AGAINST MOSQUITOES."

To the Editor of THE LANCET.

SIR,—The unfortunately too frequent differences amongst doctors when they do ventilate their opinions may, so far as the above matter is concerned, be very easily explained. The application of carbolic acid and oil, in the proportion of 1 to 10 or 15, is for a time perfectly successful in keeping off mosquitoes; but the carbolic acid evaporates so rapidly that a renewal has to be made every half-hour or thereabouts. So far as my experience goes, there is no place where the sting of the mosquito is so venomous as on the banks of rivers and lakes, and after exposure in such places I have known men to be laid up and disfigured for weeks. By using the oil, and repeating its use every half hour or so, I have fished where all other fishers were half smothered with mosquito muslin wrapped round them—and in the tropics this is very heat-producing, even if effectual in keeping out the "wily mosquito"—with perfect impunity, and the only difficulty I had was to keep it out of my eyes, as it produces smart pain if it touches the conjunctiva. Put a bottle of freshly mixed acid and oil in your pocket, and apply it at frequent intervals on hands, neck, and face, and you may defy mosquitoes, gnats, *et hoc genus omne*. My experience includes the East and West coasts of Africa, the East and West Indies, North America, and the Arctic. The Arctic black gnat in summer is as annoying as any "punkah mosquito." Before I used carbolic oil I employed creasote and oil, and a mixture of it used to be sold at least a quarter of a century ago by the fishing tackle folk in the land of the "Blue Noses;" indeed, it was my experience there which led me to substitute the carbolic acid for the creasote. I am, Sir, yours faithfully,

March 28th, 1885. AN OLD SALT.

HOMES FOR MENTAL CONVALESCENTS.

To the Editor of THE LANCET.

SIR,—Amongst the many valuable institutions of the day is there not one greatly needed—convalescent homes for our pauper lunatic asylums? All medical men who superintend these asylums would, I believe, agree on the value of such convalescent homes, not only as preparing patients for return home when rallying, but as more likely to lead to recovery than at present is the case. And what a boon the change would be to those whose nervous system has been shattered!

"The very air, the sun, the skies,
Would seem like opening paradise."

And for those preparing for return to cottage homes, &c., would not a large farmhouse or some such home, with simplest furniture, but with possibly garden and poultry, be sufficient, and better than grander buildings? Such convalescent homes might be attainable without great outlay, as the patients would still be paid for, as at the asylums?

I am, Sir, yours faithfully,

March 30th, 1885. H. B.

*** Our correspondent will find, on referring to our issue of May 17th, 1884, a letter from the *Rev.* H. Hawkins, Chaplain of Colney Hatch Asylum, calling attention to the want of convalescent homes "to supplement the recovery of patients discharged from asylums for the insane." As we then pointed out, the need of such institutions has long been recognised.—ED. L.

TWIN BIRTH IN WHICH ONE CHILD WAS AN ANENCEPHALUS.

To the Editor of THE LANCET.

SIR,—On March 15th I delivered Mrs. B——, in her sixth confinement, of a living female child, and on perceiving two cords I examined, expecting to find a normal vertex presenting, as in the first case, instead of which I felt the cranial bones loosely covered with skin. Uterine action setting in, a fœtus was expelled, smaller than the first, perfectly developed as regards bodily conformation apparently. On section of the scalp not a vestige of brain tissue was to be seen, merely the membranes thickened and congested. The husband informed me that his wife received a severe shock seven months since at the sea-side, when she saw a hideous-looking man, and he states that the physiognomy of the encephalon corresponded exactly with the individual she then saw, it having the same depressed bridge of nose, &c. I should add that there was only one placenta. I am, Sir, yours faithfully,

Hollywood-road, S.W., March 24th, 1885. WM. J. HEDDY, M.R.C.S.

Mr. C. C. Burman (Belford, Northumberland).—The inquiries addressed to us are matters requiring careful investigation. We have found the paroxysms to be almost always more frequent at night, whether the patient sleep or not. In the early part of the course of the complaint the paroxysms frequently occur when the child is put to bed and at about 2 or 3 A.M. Profound or light sleep, in our experience, exercises but little influence; when sound sleep is possible, the attack is generally slight. Any striking alterations in the patient's environment may induce an attack.

PAIN IN THE FOOT AFTER HEMIPLEGIA.

To the Editor of THE LANCET.

SIR,—Will you allow me to ask some of your readers if they can help me to relieve severe pain occurring paroxysmally in the foot after hemiplegia, accompanied with tingling and numbness. Ointments of aconite and belladonna have exasperated it. The patient objects to hypodermic injections. Would it be wise to try the constant current? I have failed so often that I do not wish to resort to this without previously having the benefit of other experience than my own.—Yours faithfully,

March 30th, 1885. H. G. D.

TRANSMISSION AND TRANSMUTATION OF DISEASE.

To the Editor of THE LANCET.

SIR,—I shall be greatly obliged if any members of the profession will furnish me from their own experience any of the following:—1. A family tree showing the transmission of phthisis, gout, or rheumatism, through (if possible) three generations and one or more collateral branches of the family. 2. Any instances of the transmutation by heredity of nervous diseases—e.g., epilepsy, hysteria, alcoholism, &c., into insanity, or *vice versâ*. 3. Any good instances of the hereditary transmission of skin diseases. I am, Sir, yours faithfully,

Belfast, March 28th, 1885. JAMES A. LINDSAY, M.A., M.D.

COMMUNICATIONS not noticed in our present number will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Sir Henry Thompson, Dr. Wilks, London; Dr. Saunders, London; Dr. Braxton Hicks; Dr. Maglioni, Monte Video; Surgeon-Major Colson, Aden; Mr. Aylmer Lewis, Oswestry; Dr. Charles Day, London; Dr. P. Sydney Jones, Sydenham; Mr. Sturrock; Mr. T. L. K. Davies, Llandudno; Mr. Haggard, London; Dr. Lindsay, Belfast; Dr. A. Swann, Batley; Mr. J. P. Wilton, Gloucester; Lady Cowper, Hertford; Mr. A. Davies, London; Mr. Arthur Neve; Mr. Thos. Lovatt, Sheerness; Mr. J. West, London; Mr. Pegler, Kursaing; Mr. Cliftoff Swagger, Melbourne; Dr. Orchard, Manchester; Mr. H. W. Allingham, London; Dr. Boerner, Berlin; Mr. T. A. Buck; Mr. Hides, London; Dr. De H. Hall, London; Dr. Ferguson, Cheltenham; Mr. C. C. Burman, Belford; Deputy Surgeon-General Jackson; Mr. Uvedale West, Stoke-on-Trent; Mr. J. E. Blomfield, Paris; Dr. C. F. Murray, Ashfield; Mr. W. A. Thomson, Ampthill; Messrs. W. V. Wright and Co., London; Mr. Horton, Ben Rhydding; Messrs. Street and Co., Cornhill; Mr. Twyford, Hanley; Dr. Pope; Messrs. Macmillan and Co., Cambridge; Mr. Flinder, Islington; Messrs. Smith, Elder and Co., London; Messrs. Whitehead and Co., Manchester; Mr. Robertson, Parkstone; Messrs. Fletcher and Co., Holloway; Professor Struthers, Aberdeen; Miss Tudney, Leicester; Mr. Crozier; Mr. Gallagher, Bishop Auckland; Mr. Burcombe, Lincoln; Messrs. Beal and Son, Brighton; Mr. McDougall, Torosay; Mr. Russell, Liverpool; Messrs. Hewlett and Co., London; Mr. Webster; Mr. Ruddell, Bath; Mr. Grant, Birmingham; Mr. Watt, Hovingham; Mr. Lindford, London; Dr. Croke, Hull; Dr. McKenzie; Dr. Sweeting, Kensington; Mr. Fleck, High Wickham. Licensed in Medicine; H. G. D.; Medicus, Croydon; Percy; Secretary, Royal Infirmary, Manchester; Matron; G. A.; Northumbriensis.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Hoysted; Mr. Parnell, Camden-town; Mr. Dresser, Darlington; Dr. Symons, Tutbury; Dr. Horton, Leominster; Dr. Potter, Bombay; Mr. Owen, Huddersfield; Mr. Medwill, Christchurch, New Zealand; Mr. Yateman, Narracoorte; Mr. Bannasconi, Plymouth; Mr. Walker, Middlesbro'; Dr. Pernisch; Miss Hunt, Dublin; Mr. Heywood, Manchester; Dr. Heelas, Isle of Wight; Mr. Robinson, Sheffield; Mrs. Cairns, Glasgow; Dr. Mumby, Suakim; Mr. Maywood, London; The Dean, Victoria University; R. P., Brecon; A. B., Wellington; H. B., Newtown; W. B., Burnley; W. S., Aberdeen; Matron, Bedford Infirmary; P. L., Gravesend; Surgeon, Tunbridge Wells; Secretary, Stafford Infirmary; Kennel Man, Ramsgate; Medicus, Minchinhampton; G. J., Cardiff.

Church of England Temperance Chronicle, Burnsley Chronicle, Preston Herald, Mexborough Times, Sheffield Independent, Amateur Photographer, South Wales Echo, South Wales Daily News, &c., have been received.

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